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Corporate Human Resource Development II

From Competence Development to Organisational Learning

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InWEnt in Brief

InWEnt stands for the development of human resources and organisations within the framework of international cooperation. InWEnt's range of services caters to skilled and managerial staff as well as decision makers from businesses, politics, administrations and civil societies worldwide. Each year, some 55,000 persons participate in our measures.

Programmes and measures at InWEnt aim at promoting change competencies on three levels: They strengthen the individual's executive competencies, increase the performance of companies, organisations and administrations, and at the political level improve decision-making skills and the capacity to act. The methodological tools comprise modules and can be adapted to meet changing requirements in order to provide solutions. Apart from face-to-face situations in measures offering training, exchange of experience and dialog, emphasis is on e-learning-assisted networking. InWEnt cooperates equally with partners from developing, transition and industrialised countries.

InWEnt's shareholders comprise the Federal Republic of Germany, represented by the Federal Ministry for Economic Cooperation and Development (BMZ), the Carl Duisberg Gesellschaft that represents the business community, and the German Foundation for International Development that represents the Länder (German federal states).

InWEnt was established in 2002 through the merger of Carl Duisberg Gesellschaft (CDG) and the German Foundation for International Development (DSE).

Division 4.01 of InWEnt is seated in Mannheim and conducts on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) advanced training programmes. Under the banner of "sustainable development", its work focuses on questions of technology cooperation, system development and management in the field of technical and vocational education and training. Its dialog and training programmes are targeted at decision-makers from the public and private sectors, junior managers and multipliers from vocational training systems.

Introduction

From 2003 onwards, InWEnt´s Division "Technological Cooperation, System Development and Management in Vocational Training" is to present a series on everyday practice in vocational training.

The intention of this series is described in the title itself ("Beiträge aus der Praxis der beruflichen Bildung" = series on everyday practice in vocational training). The division aims to support its programmes of international personnel development in the above-mentioned areas with technical documentation in both printed and electronic form.

These reports

- originate in the partner countries, taking into account specific situational demand
- will be tested with and for experts in vocational training in the partner countries in conjunction with respective practice-oriented training programmes on offer, and
- with a view to global learning, will be improved and adapted prior to publication according to the recommendations of the partners or the results of the pilot events.

Thus, the Division "Technological Cooperation, System Development and Management in Vocational Training" is applying the requirements of InWEnt´s training programme to its own products in the above faculties: i.e. these can only be as good as their practical relevance for the experts of vocational training systems in the partner countries.

To this effect, we look forward to critical and constructive feedback from all readers and users of these special series.

Our thanks go to Prof Dr. Rolf Arnold who made invaluable contributions to these activities.

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1 What Skills will be Needed in the Future?

The jobs people do and their occupations have always altered as a function of technological and societal change. Similarly, we know today, primarily from international studies, that the skills potential pooled in occupations is not only the "outcome" of change but also a central prerequisite of change. Hence what competence development needs to provide are approaches to interdependency which, rather than simply lamenting a "decline" in occupations, can at the same time identify in what new form (not organised conventionally according to particular occupations) professional expertise will in future manifest itself in global labour markets.

Occupational Change Follows Technology

In the past it was, above all, the way in which technology was applied and tools used which determined which occupations were created and which "declined". Occupational sociology, for example, identifies "four stages of mechanisation and automation":

1. working without tools,
2. working with tools,
3. working with manually operated tools
4. and working with manually operated tools that are held and controlled (machine) (Daheim 1969, p.4).

In view of the ways in which information and communication technologies are applied today, a fifth category needs to be added: working with computer-controlled machines. Here it is more a case of people working on the machine than with it.

The prevalent method of production – with or without tools, with or on a machine – hence determines how people (can) work. It therefore determines the system of different occupations within a society. The occupations of carpenter and joiner, for example, have only existed since the time that the tools needed for woodworking have been available at least in rudimentary form, making woodworking "with tools" possible. Similarly, all the forms of occupation characterising industrial and technical production today depend on the existence of machines. Hence the creation of an occupation is directly linked to technical development, i.e. the invention of tools, machines and production processes. This becomes particularly clear when one looks more closely at the time correlation between new technical developments and the creation of occupations. The invention of photography in 1840, for example, was followed in around 1860 by the creation of the occupation of photographer. The occupation of car mechanic was established around six years after the invention of the motor car in roughly 1900. There are similar correlations in numerous other occupations.

An important consequence of this close correlation between the dominant form of production in a society and the system of occupations is the steep decline in the industrialised countries in the number of people employed in the agriculture and forestry sector on the one hand and the steep increase in those employed in the service sector on the other. This clearly reflects the trend towards tertiarisation in modern industrialised societies which the French social scientist, Jean Fourastié, was already describing in 1949 in his famous book "Le grand éspoir du XX siècle" (Fourastié 1949). In modern industrialised societies "manufacturing" and "building" activities are performed by an increasingly small percentage of the workforce, while the majority of people are engaged in "services in the widest sense". As a result of this trend certain occupations are dying out (e.g. blacksmith) and others are being created (e.g. chemical technician, electronics technician), the number of occupations requiring specialist training is steadily declining and existing job requirements are altering. Hence the use of ICT has shifted the job profile of bank employees, for example, away from accounting functions and more towards customer-service and sales functions. There has been a similar change in job requirements for

skilled workers in the production sector: as well as specialist knowledge and skills in their specific technical subject, skilled workers are increasingly required to demonstrate non-subject-specific competences which have a lot "to do" with the personality of the worker in question, and with his or her autonomy, creativity and ability to communicate.

The trend as far as the division of labour and job requirements is concerned – at least for the core areas of industrial labour – seems therefore to be moving towards greater qualification, but with a simultaneous increase in autonomy and responsibility. There is a growing onus on technical and vocational education and training and in-company competence development to prepare trainees to be able to respond to the future scope for action and to take on responsibility. This also means changing the way we look at the prevalent concepts of occupational pedagogics and competence development.

Both are facing a fundamental, although not totally unexpected paradigm shift. There has already been increasing debate in recent years both inside companies as well as in the education community on systemic approaches to professional competence development. In the worldwide context these approaches have been situational, that is to say oriented to the systems established in a particular country or region. This shift of perspective also has fundamental consequences for the general focus of technical and vocational education and training and in-company competence development. Increasingly they are oriented less to "models", and more towards examining how competence development is "embedded" in the company and microsocial context. It is apparent that requirement profiles tied closely to particular occupations are gradually disappearing. Craft skills are tending to lose importance as a selection criterion, whereas in modernised areas personality-related qualities and key skills are growing in relevance.

Diagram 1: The Changing View of Competence Development

Competence development – the changing view	
Focus up to now	Changed perspective
Preparation for an "occupation" as a framework for a skilled job	Greater orientation to cross-occupational content and key competencies ("deprofessionalisation")
Idea of a finished training and learning process in the sense of fully rounded initial TVET	Competence development as a lifelong necessity
Orientation to occupational profiles and set curricula (supply orientation)	Orientation to the actual demand of regional business conglomerations (demand orientation)
System development on the basis of standards with the greatest possible coverage (state-wide or national)	System development understood as supply appropriate to and tailored to a region (new unit of analysis)

The changes to the division of labour and occupational requirements have a quantitative as well as a qualitative dimension. It is therefore also necessary to examine how skills requirements on the different levels of our employment system are most likely to develop in the future. Projections of future skills requirements indicate that in modern societies roughly two thirds of the work performed by people in 2010 will be in the infrastructure and service sectors. The information sector, i.e. activities related to acquiring and processing information, will also expand in the future.

Professional skills also themselves bring about societal and technological change

From the historical perspective the demand for "education for all" and the beginnings of formalised technical and vocational education and training mark the start of Europe's industrialisation. In the 19th century there was a direct link, particularly for vocational training, to industrial promotion: the aim was to train the workforce specifically to raise technological standards, quality of workmanship and hence the market opportunities for domestic production (also with respect to foreign countries). Similar considerations characterise the beginnings of German cooperation in the field of vocational training with Asian, African and Latin American countries. Many projects took as their slogan: more industry and jobs through more occupational promotion, whereby a positive connection was often assumed between professional training, the creation of industry and new jobs.

Yet such assumptions were frequently proved wrong in the past. In particular it has become apparent that general technical education is more likely to have a positive effect on the labour market and the industrialisation process, while specialised skills, unless they are applied immediately, are lost again and have no effect on the labour market and employment. It has also emerged that there is no need for "speculative training in advance" since the qualification process can proceed in tandem with the establishment of production and manufacturing facilities.

Today in the international debate on the economics and science of education, there is a more sober consideration of the relationship between competence development (human capital), employment and economic development. At the background of this are the non-uniform constellations which do not follow the industrialisation paradigm and the concept of catch-up development in most developing countries. Competing approaches to explaining the interrelationship between education, labour markets and employment have been replaced by an integral approach based on the assumption that an analysis of this interrelationship

- must also take into account the social demand for education and training programmes,
- and the job supply ("manpower approach"),
- and must equally consider flexibility and mobility aspects (What substitution potential and mobility potential do the jobs have (e.g. what key skills do the workers bring with them?),
- as well as the segmentation processes which are just becoming evident in the jobs markets in developing countries (How does the link between education/competence development and job placement manifest itself in the different jobs markets?).

The problem that arises from this for in-company competence development is that HRD involves many different functional links which make clear answers and strategies difficult. The relationship between initial and continuing training on the one side and employment on the other is not straightforward but is characterised by numerous interdependencies. In-company competence development has to balance these connections, i.e. help shape and develop them.

Example:

A company wants to determine its medium-term manpower requirements. It conducts numerous analyses and finally draws up a recruitment and qualification strategy. The company decides to offer a two-year technical training programme aimed at college graduates since it is apparent that many college graduates have problems finding job opportunities. It emerges, however, that what interests these college graduates is simply the training on offer in the company ("social demand") and once they have successfully completed it, they go ahead with their "original intention" to start a course of university study. In terms of the company's need to satisfy its medium-term demand for skilled staff, this particular target group therefore turns out to be the wrong one. The company therefore decides to look at another – lower qualified – group (!), who in some respects have no other options for professional and social advancement, and to provide this group with training in line with the company's requirements. This example clearly shows how social requirements can determine the concepts governing in-company HRD.

The relationship between competence development (human capital) and employment is characterised in several regards by complex constellations of factors, interdependencies and forecasting deficits (Problem Z). It is impossible to use simple equations (e.g. "training X leads to employment Y") because of these complex links between education and employment. It is also difficult to formulate general and instrumentally useful assertions (as testing criteria) about the relevance to employment of different training strategies. Nevertheless, it is possible to identify what conditions are likely to be promising in terms of providing information about which training strategies create good and which less good access to employment.

Preparing people for jobs is less a matter of focusing on a particular occupational field and more about the need to develop broad occupational competence and initiative

What do such forecasts mean for technical and vocational education and training (TVET) and in-company competence development? TVET must "adapt" to such trends and cause-and-effect relationships. Rather than simply "reacting" to changes once they have occurred, it needs to "anticipate" change and provide "anticipatory" or "proactive" competence development in order to deliver today the skills that will be needed tomorrow. For this reason analysing and constantly observing the link between the division of labour in society and the development of the system of occupations is of fundamental importance to a future-oriented system of competence development.

It is also important to add that the system of differentiating occupations is not only the result of methods of production and the inherent necessities of the application of technology. Rather, the application of technology, the organisation of work and hence the way a society structures and classifies occupations is also determined by social conditions and interests. It was, in particular, comparative studies carried out by industrial sociologists which revealed that it is social factors, e.g. the working and occupational culture, the qualification structure, the extent of the division of labour and work organisation already in place in companies, that determine what technology is used and how it is applied; this, ultimately, is how the classification of occupations in the employment system is created in the first place.

Diagram 2:

The Complex Relationship between Education and Employment

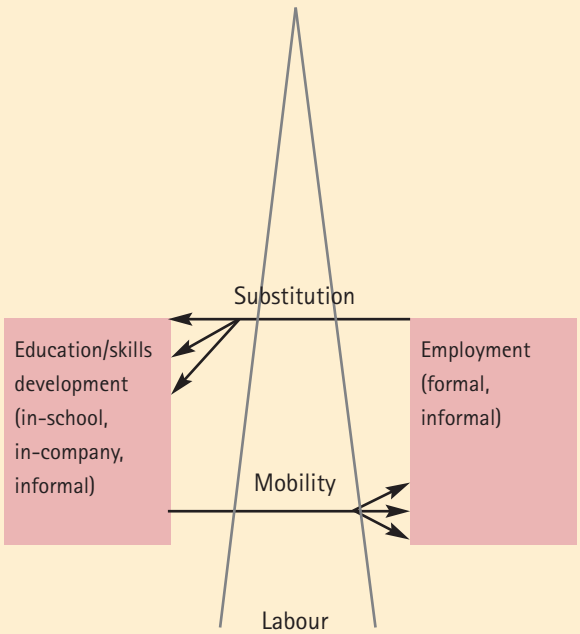
Flexibility and mobility approach

(What substitution potential do the jobs have and what mobility potential (e.g. key skills) do workers bring with them?)

Social demand approach
Problem X: oriented to general education or occupational requirements

("How many ducation/ training places have to be provided in order to satisfy social differdemand for education?")

Problem Y:
Relative autonomy of education system



Manpower requirement approach

("How many workers have to be available in the medium and long term in different areas and on different levels of the labour market?")

Problem Z:
Forecasting deficit

Segmentation approach

("How does the link between education/competence development and job placement manifest itself in the different jobs markets?")

(Arnold/ von Hauf 2003, p.207)

Erosion of the Principle of the Regulated Occupation

This development has been accompanied by an erosion of the principle of the regulated occupation, which has lost much of its force in terms of identity and skills orientation. Individuals no longer derive their identity from a single occupation for life but rather create over time from the changing contexts of their working lives a collage which can provide information on them as individuals and their skills. Thus people have to meet demands for autonomy in relation to professional competences ("independence", "the ability to organise oneself") with fragile identities and biographies - with "do-it-yourself biographies" (Beck 1993). But is a fragile "DIY biography" perhaps more appropriate for the occupation-less but competent worker? It may not at first be an arrangement we would like to imagine in relation to our vocational training system, but it may be appropriate in the context of a "Japanese-style" system of company-based vocational training. This is also the context in which we should view the remarks of Kern and Sabel, who regard the rigid system of occupations (with fixed contours) as an obstacle to new forms of work organisation and hence call for more flexible and elastic forms of dealing with work: "From this perspective what is special about the Japanese system seems to be that it is based not on qualifications but on organisation" (Kern/ Sabel 1994, p.617) – this a clear plea for a broader "range of action" in the work context.

Although it is impossible to discern a clear trend affecting all branches of the economy, there is certainly a discernible movement towards both super-qualification and de-qualification in current jobs markets. There is, however, much evidence that in recent years the upward trend of qualifications structures has intensified. One such sign is the steady decline in the number of unskilled and semi-skilled workers in companies. A further indication can be seen in the changes accompanying the introduction of new information and communication technologies in the production sector, leading experts since the 1980s to talk of a process of re-professionalisation.

The Ability to Change: Shaping Change and Overcoming Crises

In recent years the pivotal debate in HRD circles has increasingly been about skills, in particular the concept of key skills. This reflected the concern to focus more emphasis on developing broad-based professional competences. There was and is growing unease about educational practices in which knowledge is imparted mainly through learning cultures in which frontal teaching is the key element. The unwanted side-effects of this "force-feeding" of knowledge have become increasingly clear. It has been found that people socialised in this way, for example, tend to develop little confidence in their own abilities since they are accustomed primarily to a defensive adaptive style of learning, i.e. learning for the purpose of avoiding mistakes (e.g. failing examinations). Is it any wonder that the learning attitudes created by this process tend to be passive in nature? Is it any wonder that adaptive learners fail to realise that it is up to them, that they have the capacity to be not only receivers but also producers of knowledge and solutions to problems? And is there any wonder that such people later lack the motivation, personal skills and strategies to be able to shape, change and develop their work environment?

The ability to break out of this passivity is not something that can be taught; it entails transforming emotional patterns laid down much earlier in life. Theories of second order learning are useful to describe the necessary processes of maturing or rather late maturing which are necessary here. Second order learning is not just about acquiring new knowledge and developing new skills; it is much more about the individual's attitudes and emotional patterns themselves. Second order learning involves

not simply learning something new, but changing one's habitual ways of seeing and feeling through transformative learning processes. The aspect of feeling is particular important since there is much evidence to support the view that we see the world in the same way as we "feel" it and ourselves (cf. Arnold 2005). These ideas have led to a turning point in the skills debate in recent years, focussing attention on "emotional intelligence" (Goleman), the "emotional brain" (LeDoux) and "emotional competence". This reflects the many indications that feelings are our first means of making sense of the world (as reflected in the title of the book "Gefühle – unser erster Verstand"). Hence the question as to whether and to what extent people are able to let go of what they know and to construct and shape something new has more to do with their basic emotional patterns and personality than with whatever stocks of cognitive knowledge or skills they may have. Hence in-company competence development is increasingly becoming a matter of personality development, the aim and concern of which is to develop the capacity of employees to shape and effect change. These skills are vital to fostering innovation in companies and organisations.

The ability to shape change and handle crises depends among other factors on the individual's underlying emotional ability to deal with anxiety (in relation to what is new, etc). Hence the development of this competence necessarily depends on experiences that occur early on in a person's life which colour whether they perceive themselves as effective or at the mercy of others, secure or vulnerable. Many people fear change so greatly that they are incapacitated or at least severely hampered in their ability to shape events. They have to overcome their anxieties and learn to shape change and crises in order to achieve their goals. One helpful approach in this context is suggested by the American, Stephen R. Covey in his work "The Courage to Change". Covey describes the need to have clear priorities ("Put first things first"), to imagine the outcome of one's actions ("Begin with the end in mind"), to recognise the constructability and hence changeability of ways of seeing and evaluating ("Paradigm as the map not the territory") to have regard for the emotional support basis within the team and to nurture relations within the team ("emotional bank account"). These and other ideas can be useful pragmatic elements of a curriculum designed to improve the ability to manage change.

It is therefore possible to detect a clear trend towards the development of a broad competence to shape change. This goes beyond the teaching of "functional" qualifications or partial skills enabling people merely to adapt to change to include "reflective skills" as well. Reflective skills enable individuals to plan and analyse their own work processes independently and examine the outcome themselves. If such skills are to be promoted, it follows that learning at the workplace and in organised learning processes must itself be arranged in such a way as to help rather than hinder individuals in their search for independence. In order to develop such comprehensive skills, in-company competence development departments need to recognise

- that while the training process must build up and develop specialist expertise, this is – paradoxically – increasingly dependent on non-subject-specific skills (methodological and social skills), the development of which requires systematic "provisions" or "arrangements" to be put in place,
- that today education and training need to prepare individuals in equal measure to be disciplined with respect to themselves (person), to deal with things productively (objects, technology, etc), and to deal constructively with others as well as with society's demands (sociality),
- that initial and continuing training must endeavour systematically to develop personal competence ("I" skills) and promote biographical competence, and
- finally, that alongside "functional" skills in the narrow sense, "reflective competences" are systematically growing in importance.

In the modern worlds of work it is no longer possible to develop lifelong professional competence on the unsteady and rapidly changing terrain of technical specialisation alone. It is for this reason that "demand-oriented qualifications" are clearly growing (must grow) in importance. Change itself must be included in the training and qualification process and this is a clear expression of the goal of modernisation in competence development to include reflective skills: people must remain prepared for change and able to change; they need to acquire "self-sharpening qualifications", for which methodological and social skills (including critical skills) are more long-lasting prerequisites than the anticipatory or on-the-job accumulation of specialist knowledge which goes quickly out of date.

Example:

A company which manufactures, among other things, heavy-duty pumps for barrages identifies that its workforce lacks the necessary innovativeness and creativity. Whereas there is little standardisation in the company's products because each pump or turbine has to be designed differently, requiring a new manufacturing process, the employees tend to produce standard designs. This means that the expectations of some customers are disappointed. The human resources department is therefore considering ways in which the creative potential of the staff can be unlocked. It decides to introduce creative exercises and non-specialist activities into the training of the young employees. They arrange for employees to work together to produce artwork, become involved in a social project (developing a village) and plan a week-long ramble. The aim of these activities is to go beyond simply providing the young people with technical training and to develop their personalities and social skills, as well. Following these activities the young people are observed to have developed more self-confidence and to be more outspoken in articulating and representing their interests. Some of them become involved in the apprentice section of the trade union. One departmental head notes: "Okay. We urgently need creative and independent employees, and we understand that we only get these if we are also prepared to deal with the criticisms of these people."

2 How Can These Skills be Developed?

Skills cannot be developed, they can only – given the right conditions – evolve and mature. The primary task of in-company competence development, therefore, is to improve the conditions which enable the skills of the workforce to develop. Informal, on-the-job forms of learning (learning at the workplace) are growing in importance in this respect. In-company HRD is also increasingly returning to action-oriented approaches to initial and continuing training and is at the same time focusing efforts on the concept of self-directed learning.

The Basis: Technical and Vocational Education and Training

Over the past 20 years occupational pedagogics has emerged increasingly strongly as the science of competence development and has substantially widened its perspectives. While traditionally the focus was on technical competence and its promotion in formal and formalised, i.e. curriculum-based training processes, today the emphasis is more on non-subject-specific and cross-disciplinary learning

Diagram 3:
Expansion of Technical and Vocational Education and Training

	Technical competence	Methododological competence	Social competence	Emotional competence
Formal learning	A	B	C	D
Informal learning	E	F	G	H

Traditional form
Expansion 1987 ff
Expansion 1995 ff

processes in both formal and informal contexts. The greater importance of informal learning, in particular, has led to a focus on learning at the workplace, i.e. the learning opportunities that this offers (or does not offer). In-company competence development therefore depends on the learning potential of the workplace and the possibilities it provides for exchanging ideas, experimenting and making mistakes.

A summarised description of these expansions to technical and vocational education and training reveals:

> Formal learning for the purpose of systematically promoting technical skills (A) is the starting point of occupational pedagogics. Historically the foundation of vocational schools (e.g. in Germany around 1920) represented an important milestone in the path towards formalised technical and vocational education and training, i.e. training which follows technical standards and aims to establish these standards on a national scale.

> It has been clear since the mid 80s that technical knowledge and skills are subject to rapid obsolescence. What is the point of acquiring technical skills if the materials and production processes, as well as the products, change and acquired know-how becomes obsolete? – this was more or less the question that people were asking. Research started to be conducted into the methodological and social skills which help individuals to deal more effectively with change and to shape change proactively. This marked the birth of the concept of the key skills of methodological and social competence (B and C), without which professional expertise seemed incomplete and poorly placed to meet the challenges of the future.

> Since the end of the 90s occupational pedagogics has further differentiated its skills concepts by focusing increasingly on emotional competence and informal learning. The latter was to a certain extent re-discovered and endorsed by findings which showed that 70% of an adult's professional competence is acquired outside formal learning processes in school, vocational training or university (cf. Dohmen 2001, p.7). If this is so, according to recent vocational training concepts, it follows that informal, en-passant learning must be consciously supported. The suggestions made in this regard range from the frequent call for intelligent workplaces through forms of self-organised in-company learning groups to forms of computer-based or web-based learning in the work process. One might conclude that occupational pedagogics is just discovering the informal dimension of competence development and is only now starting to get to grips with the real priority area (70%) of its subject.

Learning at the Workplace – the Ideal Route for In-company HRD?

In the context of the developments described above, on-the-job learning in particular has grown in importance in recent years. The introduction of group work such as project or quality circle work represented conscious attempts by in-company HRD departments to open up the possibilities of on-the-job learning processes with a view to comprehensively promoting the professional competence of the workforce. The extent to which the workplace assists learning is related to such factors as the problems involved in the job in question, as well as the real scope for action. The guiding principle was: those who have (and use) the possibility to plan on their own initiative, test out different solutions, and take responsibility are more ready, more motivated, and ultimately more able to learn independently.

Through work-related learning and forms of work that promote learning, companies hope to raise work and production standards while cutting pro-

duction costs. Hence they are turning away from conventional continuing training courses and seminars which have a questionable record in terms of enabling employees to master increasingly complex demands in their everyday working lives. Instead they are opting for forms of "decentralised learning", delivered in three different forms:

> **Workplace-based learning**
(Learning venue and workplace are identical, e.g. learning islands and in-house learning stations),
> **Workplace-related learning**
(Learning venue and workplace are linked spatially and in terms of work organisation, e.g. technology centres and model training places),
> **Work-oriented learning**
(Learning venue and workplace are separate spatially and in terms of work organisation, e.g. learning factories and production workshops in educational establishments) (Dehnbostel 1998, p. 182).

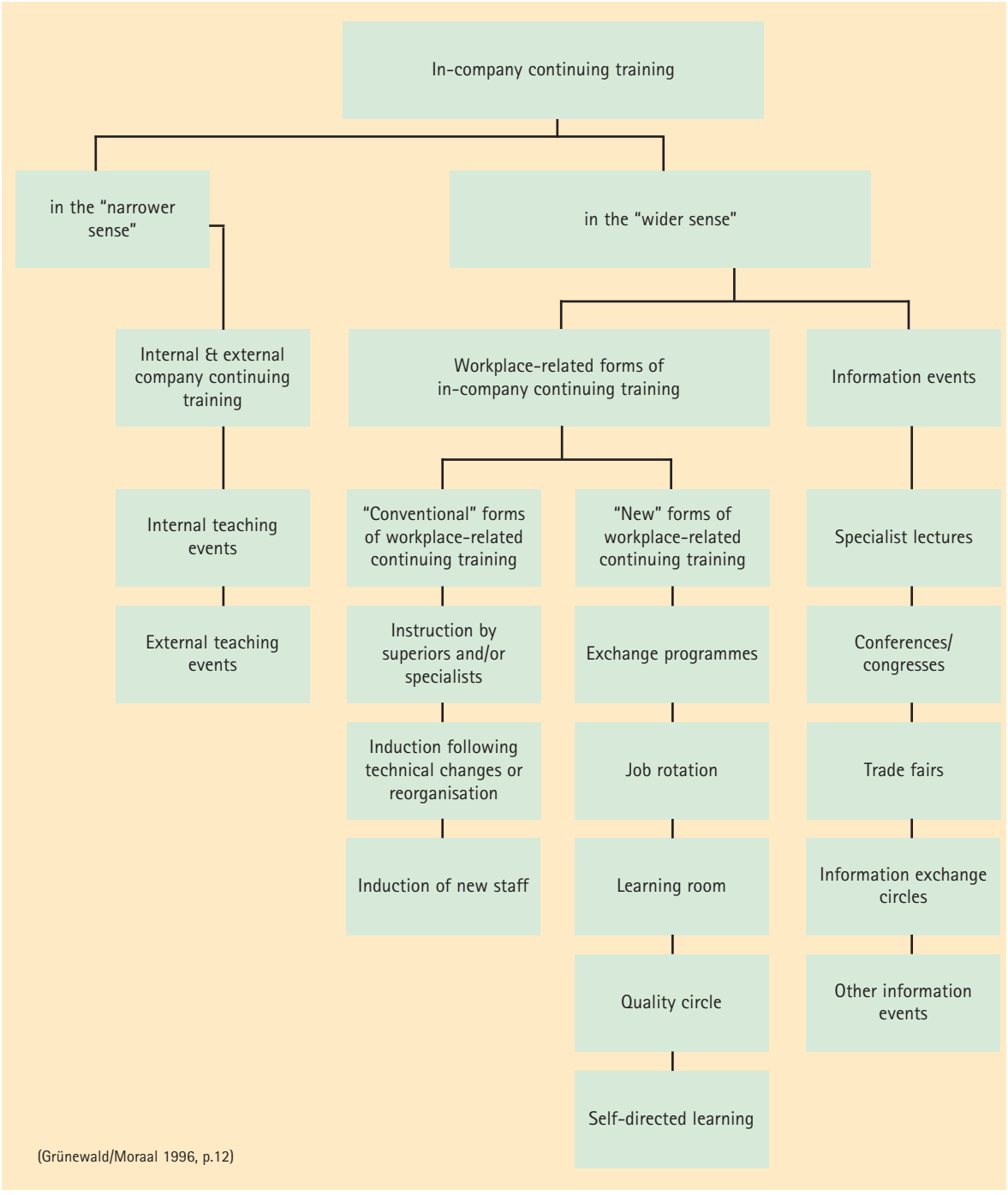
It is difficult in general terms to systematically separate learning and working. Of the general categories of HRD measures which used to be applied: "into the job"(e.g. training, induction and trainee programmes, "on the job"(e.g. workplace learning, job design to promote qualifications, coaching), "near the job"(learning room, quality circle, project groups, workshops), "off the job"(e.g. traditional continuing training seminars) and "out of the job"(e.g. training to prepare people for retirement), it is largely only the categories of "on the job" and "off the job" which tend to be used now – with companies generally setting their own priority areas.

The sub-classification used in the FORCE study, which distinguishes between "conventional" and "new" forms of workplace-related continuing training, is in widespread use.

We believe that it is possible in relation to on-the-job learning to identify both organised and non-organised or informal forms of learning. Organised forms of learning at the workplace include instruction at the workplace and the so-called "quality circle", while informal learning in the work process is generally self-organised in form. Instruction takes the form of short sequences of training in which a new worker acquires the specific skills required for a particular work context.

While the importance of learning in the work process increases as in-company HRD is oriented more closely to processes, it is also evident that independent learning in the work process is considerably more widespread that supported learning in the work process. I believe that in future companies should focus their efforts on making greater use of planned and organised forms of workplace learning such as quality circles, learning rooms or learning islands on the one hand, while on the other hand supporting informal individual learning in many different ways and making it more effective, e.g. by providing print materials, videos, teachware and simulation programmes. Individual informal learning can also be enhanced by the systematic promotion of learning strategies and delivery of techniques to optimise work methods (e.g. problem-solving procedures, creativity techniques).

Diagram 4: Overview of Forms of In-company Continuing Training



(Grünewald/Moraal 1996, p.12)

Diagram 5: Decentralised and Workplace-oriented Forms of Learning

The most widespread forms of workplace learning are:

Forms of learning	Short description
Quality circle	The aim is to involve workers in problem solving/decision-making processes; small groups meet regular for a short period (1-3 hrs) to discuss selected or topical issues, problems and tasks relating to the work area and look for solutions; a moderator supports their work; quality circles are small groups brought together at regular intervals on a long-term basis to work out solutions to problems and keep each other up-to-date about new knowledge.
Learning room	Small group convened for a limited time with a common point of reference (e.g. product, material, process, cooperation); the participants meet voluntarily at regular intervals with a superior during working hours in a room near the workplace and discuss/deal with problems in their work; equal importance attached to the issue at hand and employee issues/emphasis is on promoting technical and social skills. .
Learning island	Workplace and learning place are adjacent; selected steps are taken out of the production process and reconstructed at special workplaces (learning islands); trainees learn and perform the work operations under instruction and/or plan, perform and inspect their work independently.
Investigation	Aims: for orientation, to deliver technical content, improve cooperation and transparency in departments, understand company interrelationships; investigations are planned and directed, based on leading questions put by the learners.
Job rotation	Systematic change of workplace/tasks; participants perform various, mostly allied functions for a specific period of time under instruction to acquire additional more in-depth technical kowledge, become aware of cross-company connections and promote social skills.
Company induction	To introduce employees systematically to the demands of jobs and tasks which are new to them; induction involves preparing, introducing and adapting a member of staff to or familiarising then with a new job or task, as well as explaining the new work/job environment; almost always conducted directly at the workplace; elements of continuing training are combined with company instructions and promotion of social skills; aims: to integrate the employee technically and personally in the work process.
Training at the workplace	Training delivered through tasks performed directly at the workplace with the aim of boosting initiative.
Coaching	Systematic and targeted counselling and action concept aimed at enhancing personal development, performance and functioning of the system; applied in the event of restructuring, conflicts and as follow-up to management training.
Self-learning	Systematic and targeted counselling and action concept aimed at enhancing personal development, performance and functioning of the system; applied in the event of restructuring, conflicts, and as follow-up to management training.

(Source: Krämer-Strüzl 1997)

Self-directed and Action-oriented Learning in In-company Initial and Continuing Training

Constructivists teach us that people appropriate new knowledge, views and experiences against the background of the patterns of interpretation they acquire in the course of their lives or at the workplace and in the context of their own learning projects. There is, accordingly, an urgent need for those who manage, support others and learn in the work setting to establish the right conditions to enable learners to organise themselves and acquire knowledge in a self-activated and independent process. Experience indicates that this is most successful using activating methods. The key factors, however, are the didactic context in which the corresponding methods are used and the task or "job order" to which they are applied. Not every kind of group or partner work is suitable for the purposes of self-directed learning and to build up comprehensive professional expertise. The reverse is also true: not every instance of frontal instruction prevents independent learning.

It is not the method itself which is crucial, nor even a change of methods; what is important are the underlying didactic concerns and the question of how to prepare learners to engage actively with the constructivity of knowledge.

A further central issue in recent competence development has been the call to make learners self-activated, a call which is being voiced increasingly strongly by those who support self-directed learning. The activity of the learner is also ascribed fundamental importance in the constructivist debate. Teresa Mauri writes:

"La construcción de conocimientos por parte del alumno y de la alumna es posible gracias a la actividad que éstos desarrollan para atribuir significado a los contenidos escolares que se le presentan. El alumnado se muestra activo si, entre otras cosas (....) se esfuerza en seleccionar información relevante, organizarla coherentemente e integrala con otros conocimientos que posee y que le son familares

El alumnado se muestra activo, por ejemplo, cuando pregunta u observa atentamente para conseguir representarse cómo contar, cómo leer una palabra o saltar mejor un obstáculo, cuando se dispone a ejecutar estos procesos prestando atención a todo lo que no se ajusta a la idea de partida, revisándola cuando interpreta que está en juego el éxito de la acción; el alumnado es activo cuando aborda los problemas que se le presentan preguntando a otros, pidiendo ayuda a alguien más experto para que les guíe o les sirva de modelo, cuando utiliza este proceso para abordar nuevas situaciones de características parecidas. El alumnado es activo si al observar una pelea entre compañeros se interroga sobre las razones, pide opinión al adulto u otros companeros sobre lo que éstos consideran que está bien y mal hecho y relaciona esta respuesta contrastándola con lo que él piensa; es una persona en plena actividad cuando observa diferencias entre esta situación y otras que habia vivido anteriormente que le permiten razonar sobre lo correcto o no de sus planteamientos. El alumnado es activo cuando establece relaciones entre objetos diversos, identifica parecidos y diferencis según criterios objectivos y puede nombrarlos" (Mauri 1998, S.73).

The debate on adult education, in particular, has drawn very definite consequences in recent years from the constructivist call for self-activity on the part of learners. Very precise aspects and criteria for sustainable adult learning have been developed for this area and these are summarised below:

Diagram 6:
"10 from 5" – Didactic Aspects and Criteria Relating to Adult Learning

Didactic aspects	Didactic criteria
Didactic self-choice	1 Learners can help to define learning goals/content/topics
	2 Learners can introduce and work on their own learning projects
Didactic self-organisation	3 Learning can be organised flexibly in terms of time and methods, opening up more learning paths
	4 Learner, activity and self-acquisition methods are used systematically
Communicative learning incorporating existing experience	5 Learning linked specifically/as far as possible to real-life situations and/or work experience
	6 The social and communicative level of the learning process is intentionally promoted
Theoretical basis for technical aspects and content	7 Content selected according to curriculum, didactic and education theory criteria
Non-subject-specific justification	8 Learning content reduced down to make it manageable
	9 Learning content can be acquired through self-activity (activity theory)
	10 Action-related problems are explicitly included

(adapted from: Arnold 1996, p.199)

There is more involved in sustainable learning processes than simply "the subject at hand", i.e. specialist knowledge, syllabus contents or subject matter. Fostering social skills and – personal – methodological skills is equally important. Indeed it might be argued that these two non-subject-specific skills levels are often the really enduring elements of learning. While technical knowledge changes ever more rapidly and, if it is not applied immediately and continuously, quickly fades and is forgotten, social and methodological skills are reflective and self-activating. Equipped with them people can adapt to change themselves and respond to new demands. It is possible here to see the outlines of a new model for general education which is no longer fixated on content and material. In many places in-company competence development has understood that it must create situations in which people learn to remain able and ready to change. Methodological and social skills form a more lasting foundation for this than access to specialised technical knowledge which goes rapidly out of date.
In terms of practical application this means that learning processes have to develop in such a way that learning is about a subject, about the person doing the learning him or herself and about a group in which people are learning together. These three levels must always remain in view. Ultimately learning relates to content and processes, but equally it concerns rules of procedure and the need for the learner to clarify the procedure and reflect on the norms and values which promote or hamper learning. In this form of reflective and action-oriented learning, therefore, the learners are involved in discussing not only the "product", the outcome of an action, but also the path taken to arrive at the outcome and the process of cooperation.

The debate on self-directed learning in adult education refers back to many of the ideas on action-oriented learning which have been in circulation in Europe since the 80s. The technical term >action-oriented< can be defined in this context as follows:

Action-oriented learning is a form of learning which is not only concerned with knowledge being "moved" and "collected" in the heads of the learners; it is a process in which the learners move themselves, i.e. act. Action in terms of the learning process can – but does not have to – involve doing something practical using hands, arms, feet, etc.

Another aspect of "doing" is, however, far more significant, namely taking ownership, having the ability to plan and shape one's own learning process. "Doing" here is accompanied by thinking, and knowledge derives from the experiences gained from doing something oneself. It is still a matter of >learning<, but in a form which is deliberately designed as a self-activated series of actions: in action-oriented learning pupils, students or adults can work self-actively in as many places as possible. Self-direction and self-organisation are crucial elements of action-oriented learning.

3 What Skills are Needed by In-company Trainers Engaged in Initial and Continuing Training?

The crucial factors – both positively and negatively – in the success of this different kind of workplace-oriented and self-directed learning are the company's trainers and management, the people on whom competence development depend. They have to be ready to accept a redefining of their roles. What is at issue here is their own – often biographically and psychologically conditioned - claim to dominance which, cloaked in familiar old arguments about defence and protection and based on the pessimistic view of humanity embodied in the concept of "dead learning", clings fast to the role of teacher, manager, mentor, enlightener, controller and guardian of the truth. Modern competence development, by contrast, relies on the methodological competence and the evolutionary composure of those responsible for fostering and developing skills.

The End of Instruction

There is little doubt that the "classical methods" of imparted learning have a certain importance in relation to technical competence, i.e. in delivering specialist knowledge and skills, although they are of very limited effectiveness in relation to promoting methodological and social skills. Yet even in terms of their success in delivering technical expertise, it is wrong to assume, as many people do, that simply presenting content automatically leads to learning. Only a fraction of the subject matter addressed by a teacher is really taken in by the learner. It is wrong, on the other hand, to assume that action-oriented methods of learning, such as projects, planning games, the "Leittext" method (guidance scripts), teamwork based on leading questions, etc., for which there have been widespread pleas voiced in recent occupational pedagogics, are automatically less significant in terms of imparting lasting technical competence, if one also takes into account the amount of "wasted" learning time associated with many methods of imparted learning. Action-oriented learning tends to be polyvalent: it promotes technical knowledge and skills in a way in which the learners can also develop their methodological and social skills at the same time.

Increasingly in recent years in-company competence development has been developing methods of action-oriented learning which are aimed at developing technical expertise on the one hand and promoting non-technical capabilities such as methodological, social and leadership skills on the other. These methods establish a learning culture which is subject-related and promotes activity and autonomy, whereby promoting independence in association with key skills is the most important aspect. This learning culture also clearly anticipates the forms of cooperation and leadership which are central to new work organisation concepts and hence responds to the transfer aspects of "identical elements" (Thorndike) and "structural correspondences (Messner). Action-oriented and living learning can hence also be regarded as preparing the ground for and being the necessary accompaniment to the new business management concepts.

At the Centre: The Methods of Competence Development

The progress, success and sustainability of learning processes depend on the methods used. In the context of initial and continuing training, the forms and processes used are of fundamental importance in relation to a broad-based competence development. Modern in-company competence development relies on the diversity of the training methods used and their motivational potential. It is therefore vital for HRD professionals to thoroughly plan and prepare the methods used. The questions they need to clarify are:

> What method best suits the subject matter? (One-to-one disucssion, information sequence, demonstration/four-stage method, group work; general: provide information or allow learners to experience it themselves?)
> How far do I want to/can I/must I promote the learners' independence with respect to this subject?

> What methods are particularly suitable for promoting key skills (e.g. independence, communication, transferability)?
> What social form will I select (individual work, working with partner, group work or work in plenary)?
> What is the goal?
> Have I enough time available?
> Do I have the necessary materials and media?

It is impossible to generalise about the appropriateness or effectiveness of a method; this can only be determined in relation to particular goals and content and the qualifications of the participants. It is expected that trainers will

> be able to adapt and apply their knowledge of methods and methodological questions in concrete training situations,
> be able to judge how suitable a method is for a learning situation under the specific conditions in question
> be able to apply the training method appropriately.

The question that all trainers should ask themselves before using a particular method is:

Which methods are particularly well suited, for example, to learn and/or foster the skills of

> thinking and acting creatively?
> acquiring information (independently)?
> thinking and acting analytically? etc..

Thus the question of how effective various methods are for developing general professional competence is central to preparing and implementing in-company competence development.

The following diagram illustrates the link between methods and objectives.

In order to satisfy the need not only to deliver technical knowledge but also to promote key skills in young and adult workers in a company, it is important to consider how powerful and effective the individual methods of vocational training are: are they solely suited to imparting technical knowledge and skills (technical expertise) or do they also have a role to play in promoting the learner's learning and working methods or improving their ability to work in a team and communicate (social and leadership skills)?

The clearly detectable methodological shift in learning cultures towards self-organised, experience-oriented learning has been caused in part by a realisation that the different methods used in in-company training and education vary enormously in terms of how effective they are in the teaching process. It can justifiably be assumed, for example, that the classical methods used in imparted learning have a certain role to play in relation to technical competence, i.e. in delivering specialist knowledge and skills, while their effectiveness is extremely limited in relation to promoting methodological and social skills. Yet even in terms of their success in delivering technical expertise, it is wrong to assume, as many people do, that simply presenting content automatically leads to learning. Only a fraction of the subject matter addressed by a teacher is really taken in by the learner. It is also wrong, on the other hand, to assume that action-oriented methods of learning, such as projects, planning games, the "Leittext" method (guidance scripts), teamwork based on leading questions, etc., for which there have been widespread pleas voiced in recent occupational pedagogics, are automatically less significant in terms of imparting lasting technical competence, if one also takes into account the amount of "wasted" learning time associated with many methods of imparted learning. Action-oriented learning tends to be polyvalent: it treats technical knowledge and skills in a way in which the learners can also develop their methodological and social skills at the same time. Suitable methods here include the learning office, the practice firm, simulation games, role plays, case studies, experimental exercises, investigations, etc.

Diagram 7: The Link between Methods and Objectives

Goal \ Methods	4-step method	Course	Leittext method (guidance script)	Experi-ment	Investi-gation	Brain-storming	Project method	Planing game	One-to-one discussion	Lecture	Role-play
Acquire information	XX	X	XX	X	XX				XX	XX	XX
Think and act creatively				X		XX	XX	XX	X		
Think and act analytically	X		X		XX		X	XX	XX	X	XX
Think and act synthetically							X	XX	XX	X	
Plan thinking and acting to promote learning		X	X	XX	XX		XX	X	X	X	X
Evaluate thinking and acting to promote learning	X	X	XX	XX	XX	X	XX	XX	X	X	X
Make decisions in relation to thinking and acting to promote learning			XX	XX		XX	XX	XX	X	X	
Act according to instructions and specifications	XX	XX	XX	X					X	X	
Work independently		X	XX	XX	X		XX	X	X	X	X
Draw up and present report		X	X	X	X		X	X	XX	XX	X

XX = particularly well suited X = well suited

(after:Brassard inter alia 1994, supplement (extract))

Learning in Learning Loops

In action-oriented learning the learners become "constructors" who themselves (re)produce the "evolutionary process" which historically and materially gave rise to the answers and solutions to various questions and problems of working and everyday life already found elsewhere and by others and documented ("deep-frozen") in textbooks. Instead of learning something "about" the material as a finished end product, they learn to acquire information themselves in a process of self discovery in a way that allows them to use it for their own problem-solving: they reconstruct knowledge, gaining in the process insight into the structure of the origins of knowledge and developing the broader skills which they "need" to acquire knowledge and solve problems in later learning processes.

Example:

In action-oriented learning the selection of learning goals and the sequence in which they are delivered often follows an exemplary problem-solving path which the learners are expected to find and travel along to produce a didactically constructed object. It is sufficient, for example, to have thought through the functioning of an electrical circuit on the basis of one example without having to go through every single possible type of circuit which one might meet in practice.

A feature of the more recent methods of in-company competence development is that they concentrate more on developing the methodological skills of learners. Instead of the teacher "having" the method, it is now the learner who "has" the method (Gaudig). This involves the teachers relinquishing their methodological competence to the learners. If one is looking for ways to promote active learning, therefore, it is not enough to think one can simply call for or encourage a variety of methods to replace oppressive frontal teaching, as is often the case. Rather one must ask which methods are to be varied and by whom. And ultimately one must also ask on what basis, i.e. according to what didactic concept, the methods are to be varied. In general terms the methodological arrangements that "occur" to teachers have one thing in common: they assume that it is ultimately a matter of refining or intensifying external control over the learner, whereas the ultimate aim in terms of enhancing learners' methodological competence is to give the learners control and direction over their own learning process. This gives them increasing sovereignty over the learning process which they, de facto, always had since nobody can learn for anybody else. One of the main reasons why externally organised teaching-learning contexts are ineffective is that they assume that learning is controlled by teaching; however when it comes to taking ownership of what is being taught, learners follow their own logic. This is considerably more difficult for them in linear teaching settings which offer few possibilities of connecting with the subject matter than it is in openly structured teaching-learning arrangements. It is therefore the mental mismatch between linear, mechanistic teaching logic on the one hand and the logic of knowledge appropriation linking into systems on the other which impacts on the sustainability of the learning process.

In order to be able to target the use of methods appropriately, one has to be aware of their didactic potential. It is necessary to examine what learning goals can be achieved with what methods and what advantages and limits are associated with them. Company trainers nowadays are increasingly method specialists. They have recognised that methods determine the learning culture and either open up or restrict the learners' possibilities of self-directed learning and investigating. For them the connection between such experiences on the one hand and subsequent situations when knowledge is applied in the work setting is fundamental. They

Diagram 8:

The Competence Development Potential of Different Methods

METHODS	ACHIEVABLE LEARNING GOALS	ADVANTAGES	LIMITATIONS/DANGERS
Lecture (One-sided) imparting of learning content/knowledge	Remembering knowledge Understanding connections	Low expenditure on teaching staff, time, premises Same information delivered quickly and to all Can be re-used at any time	Restricts knowledge Participants are not activated Not tailored to individual learning needs
One-to-one discussion/tutorial Learning matter processed in interview between teacher and learner	Remembering knowledge Understanding, analysing, synthesising and evaluating learning matter	Medium expenditure "Isolated" activation	Individual learners may be "excluded"
Group discussion Exchange of opinions/experiences to tackle a particular question	Understanding, analysing, synthesising and evaluating learning matter Identifying and steering behaviour in the group	Learners involved Greater activation Can be tailored to individual learning needs	More expenditure on preparation and time
Case study Tackling of complex problems in groups or individually (problem not changed during the process)	s. Discussion	Group activation and reinforcement Can be tailored to individual learning needs	More expenditure on preparation and time Requires good knowledge of the group process
Planning game Decision-oriented tackling of complex problems in groups (problem is changed and expanded during the process)	s. Discussion	Group activation and reinforcement Dealing with conflicts (competition)	Considerable organisational expenditure, much preparation and time
Role play Role behaviour trained in realistic situations; experiencing and reflecting on social relations and conflict resolution	Behaviour in certain roles Psychomotor skills (gestures, facial expressions)	All participants activated Self-reflection	Particular participants may be exposed Great expenditure on preparation and time
4-step method Learning skills through 1. Prepare 2. Show how 3. Copy 4. Practice	Psychomotor skills Remembering knowledge Understanding	Activation and direct reinforcement Can be tailored to individual learning needs in terms of learning tempo and numbers	Does little to foster independence
Programmed teaching works independently on learning matter in a sequence of prescribed steps and learning checks	Remembering knowledge Understanding	Can be tailored to individual learning needs Self-selected learning tempo	Does little to foster learner independence
Self-study Learner works on learning matter in a sequence of steps and learning checks	s. Programmed teaching	Tailored to individual learning needs Virtually no expenditure on staff Learner allocates his own time	High expenditure on time Occasional manifestations of loneliness High degree of discipline required
Project method Independent planning, executing and checking of project work	Understanding connections Getting on in a group Working independently on problem alone or in group Creativity; innovativeness	Group activation and reinforcement Tailored to individual learning needs Technical expertise Social learning Group is self-directing	Requires advanced counselling skills Expenditure on preparation and time

(Arnold/ Krämer-Stürzl 2005, p.294f)

know that only those who have been able to experience and practice the relevant skills in their initial and continuing training will subsequently have the skills to perform creatively and innovatively and solve problems in their jobs.

Various methods are presented here briefly again in this context, with annotations on their didactic potential and conditions for their use.
The choice of methods used in the staging of in-company competence development is increasingly emerging as crucial to fostering a broad skills base encouraging employees to participate in shaping the company and use their innovative ability. This is illustrated by the following example:

Example:
Attempting (learning) the impossible

The HRD department of a major mail order company was awarded a training prize in 2003 for the following management development programme: groups of junior management staff from a variety of countries were set " impossible" tasks, for example working together to produce a work of art which would later be exhibited in the Guggenheim Museum in New York or making a film to be shown at the Cannes Film Festival. The groups very soon realised that in order to be able to carry out these tasks, they needed to mobilise all their resources and make use of their own contacts and networks. They established contact – in some cases by indirect routes - with film directors, museum experts, etc. and assembled a synergetic force which in nearly all cases resulted in success: a film was shown at Cannes and a picture was even hung in the Guggenheim[1].

Professionalism

As in other professions such as medicine or law, a feature of real professionalism in HRD is that academic explanations play a leading role. Just as a surgeon is unlikely to allow the hospital administration to dictate to him what to do in a surgical operation, equally HRD professionals are ultimately themselves responsible for the quality, appropriateness and correctness of their actions. They do not simply follow the company's directions; they also know, from their own expertise, that competence development has to be organised on a sustainable basis and hence are ready to express their opinion if they feel that a popular concept is ineffective. As professionals they are guided by the principles of their profession, as the following Code of Ethics for adult educators in the USA illustrates (see next page):

1 Report from experiences of being a member of the prize jury (for details see: www.ottogroup.com/uploads/media/Otto_GB_03.pdf).

Diagram 9:

Code of Ethics of American Adult Education Organisations

The Coalition of Adult Education Organisations (CAEO) in Washington D.C., the umbrella organisation for adult education associations and institutions in the USA, has adopted a Code of Ethics for adult educators which
contains a whole list of principles identifying the ethical and professional responsibilities of adult educators with respect to learners, training providers and the public.

The CAEO recommends that its member organisations and the adult educators employed in them observe, adopt and implement these principles. Not all the principles apply in terms of their formulation or subject matter to all areas of education or all organisations.

The ethical principles adopted in the Code are classified in three areas:
> 1. Principles relating to participants,
> 2. Principles relating to employers or providers and 3. Principles relating to the occupational profile.

Principles relating to participants:

> Participation is open to suitably qualified people, interested parties and applicants regardless of skin colour, gender, age, physical handicap, sexual orientation, religion or ethnic origin.
> Participants must be notified in advance about course contents, examination procedures, examination requirements and methods of teaching.
> Participants have the right to provide critical feeback on courses, course contents, tutors and course leaders and to know that the course leader takes note of such feedback.

Principles relating to employer or provider:

> Courses which are staged by other competing agencies must not be denigrated or shown in an unfair light.
> Advertising and announcements relating to the course must be correct and objective and observe the rules of good taste.
> The qualifications and relevant experience of tutors and course leaders must be presented correctly and must meet the requirements of the course and the expectations of the participants.
> Possible conflicts of interest with respect to tutors and course leaders which may have a bearing on the conduct of the course must be disclosed before the start of the course.
> Records of attendance and achievement must be correctly kept and documented.
> Adult education must not be marginalised within the responsible organisations. Income from course fees may not be used for purposes outside adult education which may be more important to the organisation in question.

Principles relating to the occupational profile:

> Copyrights relating to teaching materials used must be fully respected.
> Only participants who have the necessary qualifications and who are likely to complete the course successfully should be recruited.
> Participants who can be better taught in other courses or by other organisations should be notified accordingly.
> No products or services may be advertised during teaching. Lobbying for particular political, religious, societal or social causes or the collection of money is not allowed during teaching.
> Tutors and course leaders should be open about their educational philosophy.
> Tutors and course leaders may not use their qualifications and membership of organisations to make misleading comments on their own technical expertise.
> Tutors and course leaders must allow other opinions to be voiced which contradict their own views.
> Tutors and course leaders should strive to continue their own ongoing professional development.

(from: Arnold 1996, p. 24ff)

In order to transfer similar rules to the area of in-company HRD it is helpful to examine the following questions:

(1) What are the characteristic features of professional (as opposed to pre-professional, semi-professional or unprofessional) behaviour in relation to company HRD personnel)?
(2) Where and in what areas is the tutor, trainer or team leader "autonomous"?

(3) Can you put the principles of the Code of Ethics for American adult educators into practice in your HRD work? Which principles can you apply and which can you not apply? Which conditions are helpful and which are a hindrance?

New Demands for Teaching Personnel in Their Roles: Pedagogic Composure

The plea for active, self-organised learning is hence closely linked to the call for a re-definition of the professional role of the teacher. Self-organisation can only develop "at the expense of" external organisation. Active learning is guided by the maxims: "Where there was external organisation, now there is self-organisation!" and "Learning replaces teaching!" Nevertheless, these demands certainly do not mean that learning processes will dispense altogether with external organisation. It would be illusory and futile to think this could be the case. Action-oriented learning is not a matter of the teacher waiting patiently on the sidelines or refraining from intervening; instead, the teacher assumes a different role which places him/her less in the centre of the process but which is nevertheless central in didactic terms:

The teacher continues to arrange the learning situation – thus s/he remains responsible for the process, but plans and shapes the process less in the form of impulses and long lectures (permanent dominance) and much more in the form of learning questions, assignments, aids and advice, in order to enable the learners to organise themselves, i.e. to be able to acquire new, living knowledge and expand their range of professional behaviours.

Hence the teacher creates the conditions enabling the learners to organise themselves. In other words the teacher or instructor no longer "generates" knowledge to be transferred to the heads of the learners; s/he "facilitates" processes of self-active and independent knowledge acquisition and appropriation and hence supports a process of self-directed competence development.

In this context pedagogic "composure" is appropriately becoming a key term to define an attitude which moves away from the illusion of do-ability, manageability and plan-ability in relation to complex systems and processes. While technocratic concepts are characterised by the ultimately naive assumption that growing complexity and uncertainty can be "managed" by increased and more precise planning, constructivism and the more recent system theories focus on increasing adaptability during the process itself (rather than planning adaptations to the process in advance). If, in the face of the interdependency, contingency and diversity which characterise causal connections in education processes, we can no longer distinguish between

causes, consequences and side-effects, it is equally no longer realistic to take as a didactic concept the idea that education processes can be optimised through planning. What is needed instead is internal control in the sense of "embracing" the living, and this demands composed concentration and a humanistic view of the world. Quintessentially the ideas coming from constructivist research into learning are about not teaching in the sense of "giving" knowledge, but a process of the new enfolding the old. What is needed, according to these ideas, is a changed mentality towards engaging with content in teaching-learning processes. Teachers need to develop an awareness of the constructivity of content, as well as a readiness and ability to create learning arrangements.

In-company HRD is increasingly moving away from simplistic illusions of the teacher delivering knowledge towards a professionalism summed up as "teaching from the other's viewpoint". Key elements of such a theory of facilitation are open and multi-faceted learning arrangements, the preferential use of learner and activity methods, the conscious and targeted promotion of self-discovery skills in learners and the reduction, as well as immediacy of the teaching input which is – unfortunately or sensibly – still necessary.

4 How Can a Company's Knowledge Management be Improved?

Knowledge management is becoming a fundamental issue in recent debates on in-company competence development. In-company HRD is understood as a process preparatory and parallel to knowledge management. By learning to document their insights and experiences and make them available to others, employees share their knowledge and hence reduce the risk that necessary knowledge is lost when members of staff leave the company. HRD also, however, has to consider forms of knowledge relating to the work process which show that knowledge is "active". It is not simply that knowledge is made material and that others have access to it; what is more important is that employees learn to generate knowledge themselves and – in collaboration with others - develop it further.

What is Knowledge?

In recent years the concept of knowledge has increasingly become a key category of in-company competence development. There is much talk today about the "knowledge society". In modern society, access to knowledge, the application of knowledge as well as the possession and sharing of knowledge have become central elements of the success of individuals and companies. As far as individuals are concerned, there is nothing new in this. Educational success has always been measured in terms of how far and in what depth learners are able to process canonised inventories of knowledge. Looking at the knowledge dimension in organisations and companies, however, is comparatively "new". The aim now is to ensure smoother access to and provision of knowledge since this represents a dimension of competition which is fundamental to individuals as well as companies in determining which opportunities for life and survival can be developed and secured. Helmut Willke has distilled the central issue relating to the knowledge dimension into to the following assertion and question:

> Today even the features pages of the newspapers are saying that in the wake of sustained and breakneck globalisation, knowledge, the knowledge base and knowledge work are becoming essential conditions determining the competitiveness of organisations, regions and whole societies. The question (...) is: What forms of generating and using knowledge enable people and organisations to shape learning and innovation into core competencies? (Willke 1998, Vorwort).

This has fundamental consequences for in-company competence development, all of which revolve around the questions of how much knowledge people – in actual workplaces and in concrete situations in their lives – need and how knowledge can become competence. Both questions are very closely related and they lead the educational debate back to its real core. "Content" in didactics is coming increasingly under the spotlight in relation to the concept of knowledge. Questions relating to the psychology and sociology of knowledge are becoming intertwined with curriculum questions. While the psychology of knowledge seeks to explain how people are able to acquire and retain coherent and complex information on a lasting basis and how the ways in which knowledge is internally structured assist the learning process, the sociology of knowledge sheds light on another side of the problem. It examines how society generates knowledge, and this includes looking at the social reasons why interest groups generate and monopolise information. It also seeks to explain that not all knowledge defined as being relevant to entering a particular occupation is really demonstrably necessary for performing that job. The acquisition and monopolisation of knowledge also clearly play a role in regulating social function, access to positions and life opportunities. But what is knowledge? The answers offered to this question are more likely to confuse than enlighten. There is widespread agreement, however, that "knowledge" is something different from and more than "information". Moreover, knowledge under prevailing conditions is said to be "material", "explicit" and "passive", while what is

needed is to create more "reflective", "implicit" and "active" knowledge. Knowledge, it is said, is less a "possession" today than a "process". In this sense recent concepts of competence development assume that

"Professional competence, from the individual perspective too, is not something that can be deduced scientifically; it is based among other things on a learning and development process which cannot be fully represented in terms of academic content" (Bremer 2005, p.80).

In-company competence development therefore needs to have a rethink. It must, in particular, move away from the prevailing view that knowledge is a possession which one can acquire from others. This assumes that knowledge is ready and waiting to be acquired by people so they can develop skills. Corporate competence development today, on the other hand, assumes increasingly that there is a need to focus on the elements of knowledge "lying dormant" in work flows which emerge in expert problem-solving situations. This work process knowledge corresponds more to type B knowledge than type A in knowledge management.

In-company HRD should be regarded as preparatory to and an accompaniment to knowledge management.

This is partly about making employees more sensitive and aware in their handling of corporate and work-related knowledge. Much of what is unquestioningly presumed needs to be made explicit. Employees need to learn not to keep everything to themselves but to document important insights, information, experiences and explanations. The aim of such information systems is to make companies less susceptible to the risk of losing substantial amounts of knowledge when employees leave. Manuals, intranets and special documentation software are ways to conserve experiences regarding company operations in a way which is more detached from individuals. But this is only one side of in-company knowledge management. On the other side competence development must prepare staff to handle such knowledge management systems and enable them to "share" the knowledge they have acquired and to allow the documented knowledge to become

Diagram 10: Types of Knowledge

Knowledge as a possession (Type A)	Knowledge as a process (Type B)
material	reflective
explicit	implicit
passive	active
Knowledge management as the documentation and "sharing" of available and/or necessary knowledge	Knowledge management as the process of facilitating involvement in the shaping of knowledge

"active". It is easier to induct new employees and transfer staff to new departments if the people in question "know" how to deal with and further develop the knowledge that has been conserved. Little light has so far been shed on the question of the effect of knowledge acquisition on competence development. While there is agreement that specialised know-how is a prerequisite of professional competence, it is unclear what types of knowledge come into play and how important they are. In the context of efforts to optimise knowledge management in complex, rapidly developing institutions, for example, there has been much research into the importance of "implicit knowledge" (Polany 1985). This refers to skills-related knowledge which tends to remain out of view, which is why we "know more than we know how to say" (ebd., p.14). Knowledge management can be characterised as the attempt to document and "share" these hidden stocks and forms of knowledge so that others can also have access to them. Software solutions are being used in an effort to make this documentation process user-friendly. These are throwing up numerous questions which have been debated for many years. Not all knowledge, for example, is equally relevant, and it is not only knowledge that is frequently requested that is relevant. There is also, more importantly, silent prerequisite knowledge which is "known" to all concerned, but not to new recruits to the job. In this context we also talk about passive and active knowledge. The internal structuring of knowledge is hence the real and central problem of knowledge management.

Active Knowledge

In recent years in the debates about learning and competence development there has been a growing focus on a scientific view of reality, under the banner of constructivism, which sees reality as "constructed" and "dependent on the observer". No longer – according to the constructivists – can we assume in a kind of naive realism that our sensations and our thinking can accord with an absolute, objective reality. Radical constructivism therefore postulates a fundamentally different relationship between the observer and the observed world. A person, as observer of the world, does not simply reproduce the world, he constructs and creates what he believes he sees in the act of observation itself.

Hence knowledge is active, i.e. it arises from an active action on the part of the person who observes, evaluates and /or collects experiences and interprets these.

What consequences for learning and competence development can be drawn from this recently sharpened awareness of the relativity and subjectivity of all knowledge? The constructivist view is more far-reaching and at the same time constricting than conventional HRD thinking.

The teaching theory that derives from constructivism is far reaching in the following respect: in view of the constructivity of all knowledge and its dependence on the observer, teaching can no longer be regarded – as it is in almost all didactic models – as directly causative of learning. Rather we must recognise that both modes of behaviour, teaching and learning, are also an expression of self-referential, i.e. self-contained, subjective development processes (on the part of teacher and learner). Thus learning is a reinterpretation of what is already known, or at least existing knowledge and experience flow into learning processes on an enduring basis. Learning therefore consists of more than the mere assumption and appropriation of what is new; it follows the biographical logic of past experiences. Learning always links into and follows on from pre-existing knowledge. For this reason curricula, too, need to be designed to be more open and more strongly oriented to activity and the learners. Learning content is not delivered in a linear fashion; it is constructed by the learner.

This radical constructivist view is constricting for learning and competence development to the extent that it is difficult using this theory to develop the kinds of models of instruction and help which are often expected in educational practice, because didactic models, too, are constructions, i.e. an expression of the likewise self-referential process of academic cognition. At the same time constructivism gives new impetus to the concern that it is not only the technical dimension which should be seen and emphasised in the learning process, particularly in view of the increasingly rapid obsolescence of technology and the growing importance of the extra-technical or, better still, supra-technical dimensions of this knowledge (the ability to acquire knowledge, the ability to appropriate knowledge through the division of labour, the ability to solve problems independently, etc). In the face of such a system which focuses on opening up and shaping knowledge, however, instructors need, in addition to knowledge on didactics and methods, i.e. learning-related knowledge, the capacity to deal independently with, and hence construct and reinterpret, such knowledge. I, personally, do not believe that it is enough for company instructors or trainers to acquire learner-related didactic knowledge on top of or parallel to their technical expertise; rather they need to adopt a different attitude to their technical knowledge.

In order to do so they have to move away from the illusion of the factual where technical knowledge is concerned, recognise that this knowledge is constructed, unfinished and provisional and that they need to have an active attitude towards developing, acquiring and applying this technical knowledge. Instructors are not purveyors of knowledge; their role is to accompany and support learners in the process of acquiring knowledge.

Constructivist theories demand that professionals not only broaden their perspective to include both technical and extra-technical dimensions but also and more importantly adopt a fundamentally different mode of dealing with knowledge (constructivity).

The Limits of Curricularisation

Paradoxically the path to the knowledge society seems to be linked to a change in the shaping and relative importance of knowledge, a trend which is also radically affecting school knowledge. Hitherto school knowledge has constituted a stock of content and educational material that is codified in syllabuses, or better still, subject matter that is prepared according to didactic and curricular demands and has to be acquired and retained by school learners. Today we know that in nearly all disciplines it is virtually impossible to define such stocks of material knowledge "bindingly" in the medium and long term. Admittedly secondary schools and further training establishments are more badly affected by this erosion of knowledge than primary schools, but even for in-company HRD one has to question whether "memory-based learning" really can remain the leitmotiv of our education system in the future, particularly in view of the rapidly shortening shelf life of knowledge and the ease with which knowledge can be stored and retrieved outside the subjects.

The answer to this question must be no. The concept of memory-based learning must give way to skills training and the fostering of methodological and social competence. Short-term retention of knowledge (which is then forgotten again in the medium to long term) must be replaced by sustainable competence development. The Swiss educational reformer, Andreas Müller, writes:

"Knowledge asks for instructions for use: work techniques, learning how to learn, strategies for creative problem-solving, thinking and acting according to goals and paths, awareness of networks and connections, self-discipline, the ability to work in a team and reach consensus, purposefulness. Personal responsibility, personal initiative and self activity replace the process of being instructed (...)

Sustainable learning opens up paths to the future. The principle of sustainability has two objectives. One objective is the sustainability of learning behaviour. What is meant here is lifelong learning as a basic personal concept shaping modern life. The second is the sustainability of learning outcomes. This means the permanent expansion of professional competence with respect to the individual's personal success in life" (Müller 1999, p.11).

The classical precept which has long defined the debate on vocational training and continuing training is that schooling and training must "pass on" to the rising generation the knowledge, abilities and skills which were acquired by previous generations in order to enable society to go on developing. Schooling and training therefore have the effect in a way of "curtailing" individual development and ensuring that individual and social development can advance from generation to generation. This concept was valid for as long as there was a more or less stable stock of knowledge and skills which could be passed on. With the progressive accumulation and obsolescence of knowledge, however, the question which is being asked more and more is what skills can it be more or less reliably assumed will still be relevant in five, ten or fifteen years' time? Furthermore, the ability to communicate and solve problems immediately is at least as crucial today as the availability of technical know-how. In the new work contexts technical knowledge and competence can generally only be used productively through cooperation and self-directed and networked working.

This represents the continuation of a trend which was first observed on modern jobs markets forty years ago. It marks a substantial expansion of skills requirements to include extra-functional and extra-technical skills and knowledge. The relationship between general education and vocational training is being redefined because many of these skills requirements are more general, i.e. less specific to occupational fields, even if they can be acquired most sustainably in occupational processes. At the same time management and cooperation are also changing. There is a growing realisation in corporate management in many places that authoritarian and hierarchical models of corporate governance can no longer achieve the successful cooperation and quality standards required for survival in dynamic and highly competitive markets.
In the light of these developments it is inevitable that, with an expansion of company qualifications in the direction of "original" educational goals such as independence, responsibility and critical ability, insofar as they are seen as really necessary and desirable, companies will (have to) accept a new dimension of competence development which may also blur the boundary between general education and vocational training. Competence development (and/or initial and continuing training) is increasingly about aspects of personality development, the expression of which tends to evade corporate control. The indivisibility of education can be seen in the fact that just as one cannot be just "a bit pregnant", one can also not be "a bit" independent. Companies which opt for the path of broader skills must therefore – if they want to make use of the functional sides of such skills - also foster and develop those aspects of independence which benefit the subject and which the subject can use against the company's goals to improve his or her situation in the company. This is a dimension of the change in learning cultures in vocational training which has real social consequences. Not all companies, however, fully accept such expanded qualifications and are prepared to develop their forms of cooperation accordingly, which is why there is little

point in conjecturing about how extensive this changed reality in in-company learning is. It is just an indication of the potential at the margins of what can be empirically demonstrated which can identify and even trigger dynamic forces for change.

These dynamic forces and, in particular, the ever shorter average shelf life of technical knowledge call into question the preparatory and memory-based learning which characterises learning cultures in our society. The technical education institutions which prepare people for occupations (vocational training schools, universities of applied science, in-company initial and continuing training departments, etc) are particularly affected by this. Their guiding principle of delivering a stockpile of specialist knowledge is being turned on its head. The same applies to the traditional demarcation between general education and vocational training. The substance which produces the broader skills increasingly in demand (problem-solving ability, self-direction, etc) is clearly a substance which is conducive to general education and personality development. The erosion of stockpiled technical knowledge and the development of more open forms of cooperative problem-solving in the work process are replacing supposed or actual certainty (motto: we already know what it's all about) with insecurity and uncertainty. Forecasts are available from labour market and occupational research, but their information is very general and unspecific in terms of medium to long-term trends. We learn, for example, that there will be an upward trend in the service occupations while the number of jobs for the unskilled will decline, but we do not discover - or at least there is only conjecture about – which activities can be expected in terms of type and volume in the medium timescale and we know still less about which technologies – some of which have yet to be developed – will be applied at these workplaces. This means that we cannot determine definitively what technical knowledge we have to impart to schoolchildren, trainees, students and employees today in order to be able to prepare them as concretely as possible for their working future.

The illusion that knowledge can be curricularised has been shattered, yet this is being largely ignored. Technical knowledge can only be curricularised to a very limited extent, i.e. identified and packaged for today's teaching-learning processes on a properly substantiated basis in anticipation of later situations in which it is expected to be used (Robinson). Similarly, we are constantly faced with the fact that our traditional educational concepts of "more of the same" are failing. And the question is whether, as we reform and develop vocational education and training, we should perhaps be looking somewhere else – to where there is light, not where we have lost or believe we have lost the solutions. It is possible that the solution to the disillusionment about the curricularisation of technical training triggered by the problem of obsolescence does not lie in technical training at all, but outside it. What we possibly need in the face of the short shelf life of technical knowledge is not more technical training but more personality building, as well as more equanimity, more depth, more self-activity, more time for searching and for the emergence of skills. This is the direction in which attempts to focus on key skills as serious targets in vocational training and initiate appropriate action-oriented or learning-field-oriented approaches are aimed. At the same time there is a growing trend away from the concept of completeness in terms of traditional curricula towards the idea of process-oriented training.

Modern in-company competence development needs to ensure that it initiates a change in learning culture accompanied by a real change in mindset. A first important step is to expose in-company trainers (instructors, etc) to action-oriented and experience-oriented learning methods and train them to use these methods in a less teacher-centred way. Overarching qualifications such as the key skills of problem-solving ability and independence, etc. resist outside control. They cannot actually be

developed, they can only develop themselves in suitable learning arrangements. It is therefore necessary, firstly, to create suitable learning arrangements and, secondly, to make more use of those methods which facilitate self-discovery learning in this sense. Some of the learning methods are new, as is the entire learning culture which has to be transported or developed with them. But what is really new – in a personally revolutionary way – are the demands arising in such a context for the occupational educators themselves: they have to learn to be able to let go.

To sum up: with the growing >openness< of new skills requirements, there is a growing need to dispense with curricular illusions of anticipatory training. The same applies to the illusion that what is learned is what is taught and that only when something is taught is something learned. It is necessary to establish a different learning culture, accompanied by a change in the focus of in-company competence development: instead of adapting the individual to change, rather it is a case of developing and fostering the skills needed to enable the subjects to change. They must already have the capability of showing their own potential in the learning process itself. This means that the didactic and methodological side of the training process is gaining importance alongside the content side, which has hitherto been in the forefront. The way is the goal. Companies and schools in our society need therefore to change their learning cultures to focus more on methods and pedagogical aspects. Instead of a top-down structure, companies must systematically facilitate a culture in which individuals can access reality on their own initiative. Only in this way can staff develop the skills which enable them as individuals to display the appropriate behaviour even in serious corporate situations, i.e. not to wait for the solution from above but to act themselves (from the bottom), propose solutions and try out their own solutions.

5 What is Organisational Learning and how Can it be Developed?

For a long time in-company competence development regarded learning as a purely individual accomplishment. Today there is widespread recognition that organisations also need to learn as systems and to optimise their work processes and professionalism. In order to do so, their staff must (be able to) play a role in shaping the organisation. For this they need broad key skills which can be developed if company structures enable staff to be self-active. Developing the mental models (internal pictures) of the players in an organisation is a central mechanism which help organisations to learn: one first has to leave the familiar in order to be able to work together with others to shape the new.

From Competence Development to Organisational Development

The term "organisational learning" denotes a new way of looking at the management and development of organisations such as companies or businesses. In a technical dictionary we read:

"The term organisational learning expresses the idea that in its dealings with itself and its context, a social system develops its common reality, its knowledge and its experiences, along with its problem-solving ability and scope for action in order to increase efficiency, leading to a view of the organisation which represents a paradigm shift. Openness, networking and the ability to learn replace demarcation, linearity and control. (...). Organisational learning is more than the sum of individual and cooperative learning processes. What individual employees have learned and acquired flows into the organisation, is systematically collected, maintained to enable access, and structurally secured, hence becoming part of an organisational knowledge and action base" (Pätzold 1999, p. 315).

This definition highlights the key terms and central connections of organisational learning. Organisational learning generally involves knowledge and/or knowledge acquisition - not only explicit knowledge (knowledge relating to skill) but also implicit knowledge (experiential knowledge). In organisational learning employees can develop their skills and experience in such a way that not only they alone but others, too, can benefit. Hence in learning organisations individual learning relies fundamentally on shared knowledge. This means that competence development strategies cannot be limited to promoting individual skills but must define these skills with reference to the organisation, i.e. the business setting. This marks a substantial change in the relative importance of the traditional image of qualifications in relation to the individual. Skills and qualifications are no longer primarily a matter for the individual, rather they are a collective matter. It is therefore more effective for managers to discuss matters of competence development with all members of staff together rather than with individuals on a one-to-one basis. This is the only way of ensuring that an individual's training and development is recognised as being important for the working group or department as a whole. It also makes it easier for someone returning from a seminar or course to transfer and apply what he has learned to his own workplace. It is much more likely that instead of being thwarted by his colleagues, as has frequently been the case up to now, he will find a ready-prepared and more accepting environment.

The concept of organisational learning hence supersedes and expands traditional conceptions of in-company competence development which focused on the continuing training needs of individual employees and were oriented to technological requirements or the demands of the labour market. The principle of organisational learning, by contrast, is that rather than simply acquiring the knowledge they need on a continuous basis, individuals are enabled, over and above this, to learn independently and participate in the process of shaping the organisation.

The skills required for independent, lifelong learning are therefore the central feature of learning organi-

sations. It is the job of management to ensure that the company's personnel not only have the know-how but also the know-how-to-know in order to be able to be able to get on in their jobs and at the same time help the organisational structures to develop. This requires a more far-reaching understanding of learning which goes beyond the acquisition of the new (e.g. new knowledge, skills and abilities) to include the question of evaluating the goals and values which form the basis of the organisation's actions. While acquiring new knowledge, etc. is referred to as single-loop learning, reflecting on goals and values is termed double-loop learning (cf . Argyris/ Schön 1978).

A feature of learning organisations is that their employees are increasingly open to this form of learning which encourages them to reflect on the goals and values which form the basis of their own actions. This can only happen, in turn, if the scope for action in the workplace actually allows this. The workplace is therefore an important learning venue in organisational learning. The rather unusually termed deutero learning is a form of learning which goes beyond single-loop and double-loop learning. It, too, involves the acquisition of a learning object (single-loop learning) and reflection on the framework of goals and values (double-loop learning), but it also, beyond this, includes a reflection on the learning and work process itself. In this most complex form of learning the members of the organisation have an opportunity to decide on the appropriateness of the subordinate forms of learning. This third learning form

"(...) establishes an organisation-wide awareness of the existence and sequence of learning processes: those involved learn to gauge those situations in which single-loop learning is unavoidable (e.g. if standardisation is necessary or when using routines to relieve pressure) and where double-loop learning is appropriate (e.g. if market conditions change or there is a conflict between different cultural frames of reference" (Pätzold 1999, p. 317).

This third form of learning, which reflects on the learning and work processes practised in an organisation, is also characteristic of learning organisations, that is to say, those organisations whose staff not only "know about" their own learning but who are able to apply learning strategies and organise their learning process independently. Very little is still taught or instructed in such organisations. The sole goal of company initial and continuing training, in this context, is to ensure that the members of the organisation have the know-how-to-know. This know-how-to-know is made up of self-discovery skills which enable the staff of an organisation to organise their learning processes themselves and to remain responsible for them. Learning or learning-aware organisations hence have different learning cultures. They are less teacher- and management-centred and they live and impart the attitude that learning in an organisation can only be initiated and shaped by the individual. It is therefore the job of HRD professionals, continuing trainers and managers to facilitate and encourage this self-organised learning. Instead of compulsion and obedience, but also of motivation and sanction, the organisation must visibly live a learning culture which focuses on and purposefully fosters the ability of individuals to direct themselves.

"Key Skills" – The Watchword of Modern Competence Development

Whereas up to a few years ago companies were regarded as places where learning was exclusively designed for a purpose or application, while education and personality development could only be fostered outside the company setting (in schools, adult education establishments, etc.), nowadays it is increasingly difficult to draw the boundary. The changes in skills requirements on the job markets have in fact led to a twofold expansion of in-company vocational learning: firstly skills learning aimed at the delivery of key skills has broadened to include training and more specifically personality

building, i.e. the proportional development of all abilities" (W.v.Humboldt); secondly, in-company learning is no longer directed at the individual; it is concerned with promoting the adaptability and survival of the company as an organisation.

The interested public in Germany has been aware since at least the late 80s that the narrow concentration of vocational training on directly purpose-oriented requirements is softening. This year saw the end of a lengthy discussion process between employers and employees on new curricula for the regulated occupations in the metalworking and electrical sectors. The outcome represents a new departure educationally, namely training regulations which explicitly prioritise the delivery of key skills. Under the new regulations young people and young adults undergoing training in the newly regulated metalworking and electrical occupations will be enabled to plan problem-solving independently in complex everyday working situations, and implement and check these solutions. Just how much of a radical change of course this re-orientation entailed for in-company learning has only become apparent following numerous attempts to implement these new requirements in professional practice. There have been three main consequences:

Self-activity as a Path to Independence
The abilities required to solve problems independently can only be developed and acquired within in-company forms of learning which already themselves "keep their promise". In other words: numerous firms have had to accept the consequences of the fact that directed and controlled learning has simply led to the learners being led and has failed to allow them to develop the skills they need to lead and to direct themselves. This is why in in-company training practice action-oriented training models are in the ascendancy. Under these models the training and learning situations themselves are arranged as problem-solving situations.

Personality Building is Illimitable and Beyond External Control
In principle there are no bounds to the key skills which strengthen an individual's social and methodological competence. This means that the much called-for trait of independence is a little like pregnancy: one cannot be "a bit" independent (just as one cannot be "a bit" pregnant). Companies which (want to) systematically and purposefully develop their employees' independence cannot then expect that this independence only manifests itself in the areas of their choosing. Proper independence – like education – knows no bounds, i.e. like it or not, greater independence means an increase in the ability of staff to participate in and help shape the company. Thus personality building is illimitable but also beyond external control.

Education as the Vocational Training of the Future
As well as the need to provide technical and content-related training, companies today also have to provide training to develop an individual's personality. It is becoming increasingly important to nurture learners' personal "I" skills, enabling them to develop features of personality, modes of behaviour and attitudes which it was once thought were solely the province of general education. Thus the new regulations for vocational training in companies have paradoxically created a need for education and general personality building. This has been condensed into the slogan: general education is the vocational training of the future.

Self-evidently this expansion of vocational skills learning has by no means penetrated all areas of the employment system. Although additional occupations have been newly regulated since the end of the 80s on this model, the great mass of companies have not fundamentally altered their initial and continuing training strategies, apart from a few avant-garde enterprises (generally large companies). It would be wrong therefore to describe the requirements companies have of skilled workers in idealised terms. Nevertheless, empirical studies describe the following trend:

The Knowledge Base of Learning Organisations

One current way of interpreting the concept of organisational learning arises from examining how organisations can get hold of knowledge that can be "turned into action" (Argyris 1997, p.72); this means knowledge which, while it can initiate processes of learning and change in organisations, remains at the same time very closely tied to the competences and subjective knowledge ("mental models") of the staff.

The starting point and hence motive for these considerations were the limits to sustainability observed in national and international consultations on organisations and systems: change, if need be, can be introduced at short notice through external interventions (e.g. consultancy, advanced training); it is seldom possible to develop common ideas and guiding visions; rather it is a case of people working together while having different ideas about what they are together doing. Time and again I have seen that, to a considerable extent, systems and organisations (as systems in their own right or parts of systems) exist in the minds of those involved and hence can only be changed in these minds themselves. Thus organisational learning relates fundamentally to the question of the transformability of interpretations, experiences and competences in the setting of adult education, even if the learning of organisations and systems is more than the sum of individual developments, as is often maintained. Experience indicates that organisational learning is not feasible at all without a deliberate change in mental models – these offer, as Peter M. Senge says, the strongest lever for change (Senge at al. 1997, p.276); mental developments, on the other hand, only become active knowledge, i.e. knowledge that can effect change, when they involve the general environment of the organisation and system.

Mental models (patterns of interpretation) – and hence knowledge – are, however, made up not only of subjective, but also of collective and corporative elements. Not only people, but also groups, coalitions and factions constitute and transform mindsets as collectively shared, accepted or also presumed forms of knowledge and interpretation. This raises again the question of the actors (the "who?") in organisational learning, and it also and more importantly invites us to take a closer look at the aspects of interests, power, conflict and cooperation so often sidelined in more recent glossy concepts of organisational learning in terms of their importance for organisational learning processes.

It is important to clarify:

(1) Who are the actors who determine interaction and cooperation in the organisation and with what aims (e.g. interests)?
(2) What potential social influence (power, money, knowledge, ethics, etc) do these actors have?
(3) What organisational constellations (coalitions, "camps", milieus) arise as a result of goal interferences, the exertion of influence or training programmes (in terms of a sociogram of organisational influences)?
(4) What formal and informal organisational structures reveal this "interaction of a plurality of actors" (ebd)? and
(5) How does the outcome of such a balance of interests relate to the intended actions of each of the actors?

Example: Management conflict

The deputy head of a marketing department more or less explicitly sabotages the efforts of the head of the department in the area of coaching and organisational development by always responding to any moves towards strategic restructuring, new ideas and new approaches with a "yes, but" attitude. In the relevant workshops he talks at length, dominating the discussion and expressing his scepticism before others can really start to brainstorm and

get to grips with discussing possible new approaches, hence taking the wind out of the sails of the head of department and his efforts to initiate an open debate on strategy, which is also recognisable as such "from the outside". Matters are compounded by the fact that the deputy head himself holds all the operational strings in the department and hence has made himself into the de facto functional leader for the staff too, while the head is mainly effective at representing the department on the outside, at which level he plays an important and indispensable role. The emerging leadership conflict crystallises into a questioning of the appropriateness of splitting the management role into functional and operational leadership on the one hand and strategic and representative leadership on the other. Only by uncovering the interpretation which motivates the actions of the two players involved can this management conflict be defused and organisational learning facilitated.

This more or less latent leadership conflict also mixes structural with very personal aspects of leadership and being led in a very particular way. While there has already been plenty of research undertaken into the structurally difficult position of seconds-in-command and deputies in terms of their conflictive distribution of power, there has been little examination so far of the emotional dynamics that can be "expressed" in this constellation – a formulation of words which makes it clear that imposed structures do not per se exclude certain behaviours and favour others, but rather that they – like all social structures – simply represent settings for the articulation of mental dispositions. The "social", it is argued, does not present itself to us in some kind of natured – objective – pure form; rather it comes to life in a form punctuated by subjective aspects.

In concrete terms this means that the way in which power is exercised and the new and unaccustomed is accepted – even if only on a trial basis – or more or less categorically rejected, can only be appropriately understood against the background of the concepts of self of the actors involved which are rooted in the emotions and involve profound elements of self-assertion and anxiety. The only way to enable a systemically workable basis for cooperation to emerge in a leadership conflict of this kind without the capitulation of one side is to incorporate these latent moments of "driven-ness" of the interacting parties to the conflict. The question of how this has to be achieved and what behaviour must be expected from those involved points to a further dimension of organisational learning. In essence this involves developing a cooperative mindset which understands the unavoidability of an emotional construction of reality. For as long as one or both parties are rigidly stuck in a counterfactual world view, i.e. remain implicitly convinced of the facticity of their own perception, and use the structural power given to them to impose their own view of things or boycott alternative concerns, it is pointless to expect any let-up in the leadership struggles of the parties involved in the conflict, who either hamstring each other or fail to optimise the potential synergies in their complementary roles. The reverse side of the illusion of one's own facticity, after all, can only be the conviction that the other person is behaving wrongly. Thus the only option for the former is to impose his own – "reasonable" – view of things or to progressively withdraw from the structural conflict and leave the field. This is a frequently observed outcome of such leadership conflicts; in most such cases support troops are first mobilised and put in place as if the "correctness" of strategic management decisions could be conclusively decided by majorities.

Underlying organisational learning is the idea that people are "meaning seeking animals" (Jarvis 1995, p.8) who construct reality in principle against the background and with the aid of patterns of interpretation which have proven themselves biographically; this touches on the well-known effect of selective perception which means that one can only see what one (already) "knows". In constructivist terms this

creates a certain structural rigidity since an individual cannot escape his own patterns of interpretation except through reflective learning. This structural conservatism becomes a particular problem when new demands can no longer be adequately described according to familiar interpretations and one is called on to understand and shape constellations which one does not know or know enough about. Yet this is increasingly becoming the norm in companies: Siemens already fifteen years ago, for example, was earning over 50% of its annual turnover with products which were five years old or less (Osterle 1989, p.12) – and by now this product innovation cycle has probably shortened to approximately 2 to 3 years. This clearly shows, I believe, that familiar knowledge has to be abandoned constantly and new ways of looking at things constantly developed. The inflexibility and rigidity of patterns of interpretation is therefore a key factor in determining how much change and flexibility is or can be introduced into an organisation. At the same time such considerations also show us that the knowledge base of learning organisations is increasingly reliant on fluid forms of knowledge.

I believe that by systematically analysing these key questions on the basis of interpretation theory we can gain an insight into the symbolic and interpretative reality of organisations and avoid a one-sided structurally oriented view of organisational learning. It can help us to recognise the way structure and behaviour in organisational learning permeate each other so that while existing structural factors or assumptions can be understood and interpreted, this means at the same time that the structure is reproduced. Reconstructing mental structures and models in an organisation using interpretation theory can, at the same time, turn the mirror inside" (Senge 1996, p.18) and initiate what Peter Senge calls metanoia (a shift of mind) (ebd., p. 23). He writes:

"At the heart of the learning organisation is a shift of mind" (ebd., p. 22).

In view of the constructivity of social structures described above, the key question for a theory of organisational learning is how much potential there is to initiate, shape and support mental transformations. This does not mean giving in-company continuing training a quasi-therapeutic role. Neither does it mean that any particular entity in the company has the right and is actually able to align the workforce's normative orientations and interpretations just as it likes. This, by the way, is something that could only be regarded as possible under simple concepts of missionary pedagogics. The crucial mechanism for ensuring that customary expectations can be successfully changed and transformed is the kind of staging of learning processes which, as Peter Senge, would say, systematically helps the members of an organisation to discover and productively discuss their different ways of looking at the world. Only such an explication of the assumptions and premises underlying interac-

tions and a reflection on them opens up for those involved the possibility of reflecting on their own patterns of interpretation at a distance, recognising and reflecting on the underlying assumptions and testing out alternative ways of looking at things.

I believe that the leading questions that need to be asked in terms of reconstructing, reflecting on and becoming aware of, as well as transforming patterns of interpretation (mental models) are:

(1) What general experiential rules can be reconstructed from the "espoused theories" of the interactors (Senge 1996, p. 227)?
(2) What perceivable data and facts are at the basis of these explicit or tacit assumptions and assessments?
(3) Where is there agreement with or divergence from these data and facts?
(4) How have those involved moved from observations and data to abstract assumptions (experiential rules)?
(5) How can individual or shared conclusions be explained step by step on the ladder of abstraction" (Senge et al 1997, p. 283).

The reflective distance required to become aware of the mental models directing an individual's actions can also be didactically "forced" by well dosed experiences of discrepancy as well as by deliberate irritation or even provocation. This process reveals the very different images the relevant actors have in their minds about their organisation. This insight alone is an important step in organisational learning. By recognising that our colleagues see and interpret the same situation differently but likewise fully in line with their mental models and habits, we acknowledge a simple mechanism which shows us that our reality belongs only to us but that we are engaging with other people's reality and can work together with it.

6 What is the Role of Competence Development on the Path from Competence Development to Organisational Learning?

In-company competence development refers to all the efforts made by a company to develop the capabilities of its workforce. In many countries this is a completely foreign concept, although there may be an expectation that the initial and continuing training of junior skilled workers should be regulated or provided by the state. In the Federal Republic of Germany things are different. Here there is a tradition that companies themselves are responsible in large measure for training skilled staff and will not (do not want to) have this responsibility removed from them. Companies in Germany continue to function as education and training establishments as well. In addition to providing training for the majority of young people under the dual system, companies are also the biggest providers of continuing education and training. Hence companies play an important role in competence development: not only are they instrumental in training their own personnel, they also make their services available to society as a whole, e.g. to other companies.

In-company continuing education and training plays a prominent role in in-company competence development. In-company continuing training denotes all those measures and activities provided by companies to continually enhance and update the qualifications of their workforce following on from initial training. There is also a close interplay between continuing education and training and competence development in companies because a large part of HRD involves educational measures. Traditionally a distinction was made between different measures of advanced training for the purposes of adaptation, promotion and retraining, clearly designating at the same time distinct didactic forms of in-company learning. Today continuing education and training should be seen in a broader framework. While it is still more than ever primarily "adaptive", this form of continuing training no longer covers only strictly function-related learning. It is now possible to identify a substantial increase in the importance of extra-technical content and behaviour-related questions. This can be seen as an indication that skills shortages in companies are certainly not always in technical and functional areas but in so-called "learning organisations" are increasingly and in particular in non-subject-specific and supra-technical areas (so-called "key skills").

The institutional forms of in-company continuing training have also changed in recent years. There has been a removal of boundaries and process of destructuring, i.e. continuing training is no longer (only) planned and delivered behind closed doors in in-house company adult education institutes or training departments; today it is increasingly becoming an integral part of departmental cooperation and management practices. This has brought an enormous increase in the value placed on learning at the workplace. As a result of the realisation that attendance at seminars run by outside training providers had little lasting benefit because of a failure to transfer what had been learned to the participants' own work environments, today there is a preference for forms of continuing training which are more closely integrated with the workplace (including through the use of new, computer-assisted forms of learning). Instead of sending staff on seminars, the continuing training strategy of many companies today involves running problem-solving and skills workshops which are requested by the departments themselves and defined, planned and run in situ with them.

Since the 1980s in-company continuing training has become the most important segment of the continuing training market in terms of numbers of participants and the amount of money spent (approx. 40 billion per year). In terms of education policy, however, one of the problems with in-company continuing training is that it is also highly selective socially, i.e. it primarily reaches those employees who are already among the winners in terms of their existing education and skills. It is too soon to judge how far this social selectivity can be attenuated by the above-mentioned holistic training strategies. Another problem in education policy terms is the fact that

in-company continuing training is as crucial to an individual's education and professional career as his or her initial training once was, but without being subject to the same public control (e.g. state quality controls, etc). While some people deplore this state of affairs as being unconstitutional and call for federal legislation to regulate continuing education and training, which would also regulate in-company provision in terms of quality, equivalence of qualifications, etc., other voices in the debate warn against nationalising and bureaucratising in-company continuing training.

The expansion of in-company competence development to include aspects of key skills and non-subject-specific learning is overarched and supplemented by the concept of organisational learning. This concept has been increasingly debated in Germany, too, since the beginning of the 1990s after it was first expounded by C. Argyris and others at MIT at the end of the 70s. It is not suggested that organisational learning should supersede individual learning, but rather that the two learning levels should be more precisely defined and aligned with each other. While individual learning relates to the acquisition of cross-organisational technical knowledge and the development of key skills, other content characterises organisational learning. Organisational learning works with the everyday "theories-in-use" of the members of the organisation, i.e. their shared interpretations and visions of the routines and strategies of day-to-day company practice. Hence organisational learning is more concerned with the transformation of interpretational knowledge typical to the organisation and less with specialised technical knowledge and the promotion of individual key skills. In terms of the interaction of individual and organisational learning in relation to content, it emerges that the most suitable management style is one oriented to moderation and participation since this is the only way of giving staff the chance to participate in the process of developing and change company interpretations of reality. Employees in turn need more than just technical expertise to be able to take advantage of this possibility. Moderate leadership and expanded qualifications therefore interact in relation to training content. The same applies in relation to goals: the systematic development of the capacity of staff to help shape the organisation is the prerequisite for enabling them to participate in developing corporate cultures and expanding the company's collective knowledge base.

In their respective forms individual and organisational learning are in some respects different from each other and in other respects very closely related. While individual learning generally (although not always) takes place in institutionalised learning processes (courses, seminars), organisational learning proceeds alongside day-to-day working life. Organisations are continuously developing their shared interpretations and visions, whereby day-to-day experiences of cooperation and management represent the main medium in this ongoing process. In this sense the way in which a company's learning culture is structured is of crucial importance. Is learning organised more as "the transfer of codified stocks of knowledge" or is learning also designed to prepare the workforce systematically to deal with uncertainty? If this is the case, confronting open and unstructured situations is of vital importance. Employees learn through this to test out their existing interpretations and solution strategies on new problems and, if necessary, to develop new problem-solving strategies. Management must correspondingly question "tried and tested" mental models and standard solutions, consciously stir up routines and standard operations and welcome mistakes with open arms (cf Schein 1995, p.7). An important form of organisational learning is therefore "unlearning", which Ed Schein describes as follows:

"Unlearning is emotionally difficult because the old way of doing things has, after all, worked for a while and has become embedded. Doing things the old way makes life stable and predictable, and efforts to try new things in the past have often led to failure and pain. It is the history of past success and our human need to have a stable and pre-

dictable environment that gives culture such force. Culture is the accumulated learning of the past, but some cultural assumptions and some behavioural rituals can become dysfunctional and have to be unlearned." (ebd.).

It is therefore necessary precisely in periods when a business is enjoying success for the company not to rest on its laurels but, by consciously stirring things up, to stimulate a process of collective and future-oriented reflection. Organisational learning is therefore not simply a crisis strategy. It is, far more than this, a form of anticipatory learning. In order to be able to satisfy this changed role, company HRD professionals must have many different skills, as summarised in the following chart:

Diagram 11: Skills Profile for In-company HRD Professionals

Skills profile – In-company HRD and organisational development professionals

Competences	Qualifications
Technical expertise	> Knowledge of setup and organisation of human resources system > incl. of operational and organisational structure > of important process chains (which determine company workflows) > on legal and collective agreement regulations
Methodological competence	> Methods and techniques of practical HR work > Project and time management methods (also applied in own area) > Group concepts (also applied in own area) > Continuous improvement processes (also applied in own area) > Self-evaluation methods (also applied in own area) > Compiling low-expenditure but information-rich personnel statistics (information on actual level of staff qualifications as a basis for developing tailored training programmes for staff)
Social and organisational competence	> Developing customer-oriented innovations > Removing barriers hindering learning processes > Resolving social conflicts > Exercising mentoring and counselling functions as coach > Conducting interviews with people who have personal difficulties and problems > Teaching socially desirable behaviour (e.g. working in a team, constructive behaviour in project and group work and conducting staff interviews)
Strategic competence	> Developing future-viable visions and implementing them in appropriate goal hierarchies > Developing training strategies for upcoming technical and organisational changes > Being ready to accept risk > Fostering rather than impeding the creativity of others
Personal competence	> The ability to learn (i.e. reflecting on and gaining insight into one's own actions) > Thoroughly examining successes and failures > Appreciating whether certain actions are do-able or impossible > High performance level and stress resistance > The ability to self-organise > Staying power and assertiveness

(borrowed from: Frieling 1995, p. 12f)

New Professionalism for Occupational Educators

The traditional occupations for those trained in the area of vocational education teaching are vocational school teacher and company trainer or continuing trainer. Occupational educators also work in school management and in chambers and trade associations, as well as in the field of international HRD (in international companies, in development cooperation ,etc). These scenarios are illustrated by the following fictitious dialogue between former students of occupational pedagogics attending a 10-year reunion:

Peter: Hi Marion, so what are you doing now? Somehow I lost sight of you after the state examinations. I seem to remember you were an enthusiastic fan of action-oriented teaching.

Marion: Yes, I still am. I've been teaching metalworking trainees for six years now at my current school and I really love the job. And you probably remember I studied social studies as my second subject and I try to pass that on. My college is really committed. We're just in the process of putting into practice the new curricula oriented to learning fields and to bring in greater coordination across disciplines, which isn't easy. But the students like it. It involves a lot of "homework", meetings to coordinate and bring teaching into line – but at the same time it has created a lot of dynamism in the college. But I guess you know all about that yourself....?

Peter: Not first hand any more. I moved to the ministry of education two years ago and I'm trying to coordinate what you've just been talking about at state level. It wasn't easy to make the move from hands-on teaching to education administration, but you don't get a chance like that every day – in our school all the career jobs were already filled with young colleagues and I didn't want to go just anywhere. I want to do this job for a couple of years and then perhaps go abroad when the children are older.

Ute: Perhaps we'll bump into each other then. I'm also about to move on. You know that after we graduated I went straight into industry to work in the HR department of a major company manufacturing building materials. The offer was just too good to turn down and it was an ideal chance to combine my studies in building construction with my pedagogic training. So I've been there quite a few years now and now I've been asked...

Peter: What exactly do you do there?

Ute: Firstly I'm responsible for coordinating the continuing training. Yes, I know that sounds very general. But it really covers everything: from contacting the departments and company locations to clarify demand through to planning our training provision – not only, but also seminars - through to shadowing and supporting continuing training processes and evaluating them. I also run our e-learning platform. But what I was going to say was that my boss asked me recently whether I'd like to head up our HR department in Spain. Since then I've been learning Spanish.

Konrad: I had to learn Spanish, too, before I went to Bolivia with a German development cooperation organisation.

Peter: Hey, I didn't know you were in South America. What are you doing there?

Konrad: Oh, I couldn't explain in a couple of sentences. I'm responsible for improving the training at vocational schools in the highlands.

Peter: There are vocational schools there? Wow.

Konrad: You can't really compare them with our vocational school centres. The schools there are much more basically equipped, so what we are doing first is to give some help with equipping the workshops. We're also organising in-service training for the teachers and trainers, which is urgently needed. At the same time we're trying to put in place nationwide training standards. It's quite a complex but exciting job.

Gerhard: That wouldn't be for me. I've worked really hard over the past few years to get to where I am now- head of a school – so I'm not about to give it up. Now I've got my hands full to make sure my school's strategically well-positioned.

Peter: Hey, that sounds as though you're in a multinational company: "strategically positioned" – you're kidding.

Gerhard: Yes, that's important these days. Last year we worked with an external consultant to develop our school programme and now we're in the process of thinking about a quality assurance system for the school. There's a lot of dynamism about at the moment and schools are changing dramatically, I can tell you.

Uschi: Yes, that's right.. You know that I'm working as a freelance consultant, a coach. So I'm getting to know a lot of different establishments (companies as well as educational institutions), which are trying to optimise their internal workflows and their forms of cooperation. I advise these organisations, shadow and support the management and train staff in all possible subjects ranging from management to questions of team building and project management. I would never have though that I'd have landed in an area like this. But in the end I have my doctor father to thank. He had a lot of industrial projects where he used to be responsible for similar processes.

These comments illustrate just some (but not all) of the different fields in which occupational educators can work today. Schools continue to be the largest sector in which graduates of occupational and economic pedagogics find jobs. But there are a growing number of positions outside this sector which need people who, as well as having technical knowledge in two or more subjects, also have teaching knowledge and abilities. This growing demand is a reflection and result of our knowledge society in which knowledge is becoming the key variable for the development of individuals and companies. Lifelong learning, too, needs teaching and learning specialists with the ability to identify learning needs and arrange learning opportunities.

These trends will in future be combined with learning requirements in very different contexts. Growing international interconnectivity, for example, creates the need for people to be systematically prepared to deal with other cultures, just as change in all areas of life requires people to engage with and shape

Diagram 12: Careers in Occupational Pedagogics

Type	Previous education	Preparation	Status
Teacher of technical theory	University degree (state examination or German Diplom degree)	State teaching practice (varying lengths)	Administrative class civil servant in vocational schools
Teacher of general subjects	University study with state examination		
Practical technical teacher	At least intermediate qualification and practical occupational experience		Executive class civil servant in vocational schools
Head of a vocational training school (or department)	University degree (state examination or German Diplom)	Experience as teacher in vocational training school and – optional – specific continuing training in questions of school development	Higher level salary group as civil servant in public service
In-company trainer	Technical training in own subject plus professional experience	"On-the-job", possibly specific extension training (e.g. distance learning qualification in HRD)	Senior skilled worker
Continuing training specialist, in-company continuing training coordinator, etc.	Generally study at university of applied science or general university, frequently on-the-line experience		Frequently middle to higher-level management (head of department)
Freelance trainer, lecturer, consultant or coach			Freelance or as a second job
HRD specialist			Frequently middle to higher management (head of department)

new experiences continuously to a previously unknown extent. The need is not simply for people to acquire new knowledge and skills. They also importantly need to relinquish customary ways of looking at the world and mental models. Technical learning and personality building are hence increasingly becoming lifelong tasks which require the input and support of professionals with technical, as well as teaching and methodological expertise. Vocational training will increasingly become adult education, particularly since in the light of demographic trends there will be an increased need to unlock and use the learning potential of older employees. Ultimately leadership and management techniques also rely increasingly on people's capacity for self-direction. In terms of occupational pedagogics, therefore, modern management can also be understood as a process of promoting the learning of individuals and teams. Personal and organisational crises can likewise be overcome through learning. As the above dialogue illustrates, there is a growing need in this context for trained consultants who understand and can strengthen the material and relational dimensions of successful cooperation.

The following chart presents a rough grouping of the different professional roles in which occupational educators work. For the sake of completeness the chart also includes in-company trainers who do not generally have an academic background but who constitute a central group in Germany's dual system. The same applies to teaching staff for practical subject teaching in vocational training schools (see page 53).

Vocational education professionals are specialists who have particularly interesting and future-viable skills in many respects for the knowledge society. They are experts in competence development and lifelong learning since, as well as having technical expertise, they have also been able to develop their own teaching-learning skills systematically in their training. This applies equally to all careers in this field. They share the fact that, whatever their relationship to and responsibility in the particular institution, they are all responsible for fostering and developing the skills of staff. Through their teaching, vocational school teachers, for example, foster in their students the skills that the latter will require as trainees and later on, employees. A trainer in the area of more practical applications at the workplace has a similar function.

It is clear from looking at the skills of teachers in vocational training schools that this is a complex, multi-facetted and highly demanding job.

The profession of teacher is a helping profession. This may seem an unusual thing to say and may need explaining. But it is clear, if one looks more closely at the job and role of vocational school teachers, that they are responsible for creating for learners the general environment, teaching-learning arrangements and interactions which will enable them to acquire and develop on a lasting basis the technical and non-subject-specific skills they need. Ultimately what the teacher is providing is help for self-help. This is true also and in particular in light of the fact that, as well as imparting technical expertise, teaching in vocational schools is aimed at promoting the methodological, social and emotional skills which have more of a bearing on the learner's personality. This requires from teachers certain skills which are likewise on the personal level since ultimately no-one can deal productively and calmly with the inevitable tensions and dynamic relations involved if they do not themselves have a degree of self-reflection in the way they see themselves and others. Teacher training must itself, therefore, also reinforce the personal and social skills which – on another level – the trained teachers will then foster in the school students. A publication produced by the Federal Association of Teachers at Business Studies Schools on the subject of "Becoming a business studies teacher. A guide for teachers at commercial schools" states

The functions of teaching, assessing and advising are central to the holistic and complex range of

Diagram 13: Skills Profile of Teachers at Vocational Training Schools

Future teachers will.... Competences	Specifics	Examples from occupational pedagogics
Understand the subject matter, structures and research instruments in their subjects	They create learning situations which highlight subject-specific aspects for the learners	... up-to-date subject teaching which does not lag behind the state-of-the-art as reflected in the training companies
Have at their disposal a rich repertoire of teaching methods	They are able to react to the different situations of individual learners and understand their occupational field as a permanent learning task	... use of active learning methods which enable learners to absorb learning content on a lasting basis and at the same time strengthen their methodological and social skills
Be able to diagnose and assess the learning levels of the learners and the learning climate	They are able to adequately appraise learning processes and outcomes, as well as the consequences of different assessment criteria and forms of assessment	... individualised appraisal of learning and achievement levels in heterogeneous vocational school classes
Be able to give their student the skills they need to determine their own actions	They arrange their school tasks and activities with the aim of enabling students to shape their lives on the basis of self-determination, an awareness of their responsibility and in a way which brings them satisfaction	... respectful and trusting interaction with learners which offers the learners the chance to see themselves as personally effective and cooperative
Understand the need to respond to the different circumstances of their students	They can adapt their activities to the circumstances of the students in terms of their social and cultural diversity and the institutional, social and historical conditions	... inclusion of everyday experiences of the learners in their training companies as well as regard for their backgrounds and specific (youth-related) circumstances
Understand the importance of personal relations for the success of learning support	They can reflect on constellations of personal relations and consciously help shape them	... conscious shaping of relational dimensions in communication situations and communication practices aimed at strengthening resources
Have a nuanced understanding of conflict	They handle difficulties and personal conflicts constructively	... solution-oriented handling of in-company and communications-related conflict situations
Be aware of the main contradictions in the teacher's role	They can deal with the contradictions and manage the resulting tensions by being able to work productively under stress and pressure of time	... Discussion of own experiences in daily school life in teacher teams or supervision contexts
Take an active role in the school's development	In reflecting on their work and the development of their school they make reference to the results of scientific studies and the public educational debate as well as developments in education policy	... Involvement in process of shaping school profile and regional cooperation between learning venues
Understand their teaching position as a public duty	They consider social goals and tasks and are therefore able to provide professional advice; they can also use feedback as well as advice constructively to improve their own work	... targeted use of evaluation procedures and quality assurance in association with parents, companies and students

(borrowed from: Arbeitsgruppe 2004, p. 9f)

professional duties of the business studies teacher. In addition they also have the task of helping to shape the profile of their institution and working together with outside establishments and vocational training networks. In their professional duties they are always in the position of role models and have a major influence on the school climate and culture.

Business studies teachers are experts in carefully planned, successfully executed and carefully evaluated teaching-learning processes. This requires technical expertise, expertise in subject teaching and methods, non-subject-specific methodological competence and media skills (VLW 2004, p. 4).

The organisational question is becoming increasingly important in vocational training schools. Schools increasingly are judged against performance and success criteria, the fulfilment of which requires strategic action on the part of managers and teaching teams. Those most affected are school heads. Their job is moving progressively away from administrative functions to market- and customer-oriented education management, a shift that is by no means easy. Teachers have been prepared too one-sidedly for the teaching function. They see what goes on in schools primarily through the eyes of a teacher and are frequently reluctant to regard the companies who are "consumers" of their graduates and the graduates themselves as "customers". Thinking of their school in management terms as an organisation to be developed and intentionally shaped is also foreign to them at first.

Functions and Types of Function in In-company Continuing Training

In-company continuing training experts, on the other hand, are more concerned with reliably establishing the specific training requirements of members of the workforce and the departments in the company and organising effective measures to satisfy this demand. Over the past few decades a range of different in-company training activities have been developed which many companies use in an attempt to keep the qualifications and skills of their members of staff abreast of technological progress. The fact that by no means all levels of the workforce enjoy the benefit of such measures is a frequently voiced criticism. Trades unions and other continuing training providers attempt to fill this gap with their own training programmes. Nevertheless, the area of in-company continuing training has become increasingly diverse over past years. It has now moved far away from the sedate training company departments which planned and ran seminars. Now learning at the workplace and the shadowing of problem-solving processes on the spot have become increasingly important components. More and more continuing training activities are shifting back to the departments and the workplace, with the use of the new educational media becoming increasingly important.

In the wake of these trends in-company continuing training has moved far more towards organisational questions. While pedagogics has always focussed on individuals and their development and education, in in-company training the focus has widened to concentrate more on the organisation's requirements. This has also changed the role of continuing training personnel in companies in a way that is still ongoing:

"A teach-learn-related understanding of in-company continuing education and training, as reflected in the >classical< professional roles of >seminar leader< and >trainer<, is an increasingly inadequate response to the changed requirements of in-company organisational and human resources development. While these roles will continue to exist in certain areas of provision, the changes in in-company education and training work are plainly leading to an expanded range of tasks for continuing trainers which can no longer be adequately explained using the traditional view of the pedagogic process alone (...) In principle in-company continuing training is moving close to organisational development,

whereby the latter is changing its >top-down< orientation at the same time and is itself increasingly becoming a pedagogic intervention strategy. (...) No longer are individual employees with their learning and development needs the (only) starting point and goal of efforts in the area of adult education and occupational pedagogics; instead to a much greater extent it is (also) the organisation – the company – with its learning and development" (Arnold 1995, p. 181f.).

This trend in in-company continuing training towards embedding competence development in organisational terms into the overall context of in-company development has not yet been reflected in an appropriate theoretical concept, apart from the very promising approach of organisational pedagogics as presented by Harald Geissler in 2000 (Geissler 2000). This is regrettable since it means that not enough attention is being focused on the new patterns of professionalism in the field of occupational pedagogics. This in turn is unfortunate because these patterns are particularly applicable also to the new fields of activity and career possibilities open to occupational educators. If the area of knowledge-based services (Vereinigung 2003, p. 76) does indeed become the real growth area in terms of future social development, all the activities which are responsible for organising the transfer and acquisition of knowledge, however hard this appears in individual cases, will increase in importance at the same time.

The functions, designations and occupational profiles of those working in in-company continuing training are many and varied. They demand different qualifications. In both in-company and vocational continuing training there is a distinction between education management and programme planning functions on the one hand and direct knowledge delivery and support functions on the other. It is possible to identify the following types of function (see page 58).

In in-company continuing training, professionals work in a teaching capacity, as well as performing planning and coordination functions. Teaching staff include tutors and trainers who will generally have a technical qualification and professional experience. The picture as far as adult education qualifications, however, is uneven. Unlike vocational training personnel in companies, people working in continuing training are not required to have a qualification in adult education or vocational or work-related pedagogics. Only those working in continuing training measures promoted under the German Employment Promotion Act are required, in addition to having completed a programme of vocational training, to have two years' professional experience in continuing training and to participate in regular professional development courses.

The problem of the inadequate training of teachers and trainers in adult education is particular pronounced in the case of those for whom their adult education work constitutes a second job. Since such staff are involved in only a few training measures each year in their specialist area of expertise, they generally lack the incentive to formalise their own teaching function in the adult education area. There are, nevertheless, many courses on offer in the Federal Republic of Germany designed for those working as continuing trainers as either a main or a second job to provide them with further training in adult education. Self-learning and distance learning materials have been developed for this area and some universities run continuing training study courses or distance learning courses for continuing training professionals.

In addition to those continuing training personnel directly involved in skills teaching, particularly in in-company continuing training, there are also seminar leaders and education managers who are more involved in conception, planning and coordination. While those in-company trainers working in training functions are involved in a teaching role in an average of more than 60 training days, seminar leaders

Diagram 14:

Functions/main tasks	Designations of functions/ coccupations	Access/profession
Type A Education management: management of educational establishment incl. budget, identifying demand, organisational and conceptual work/developing educational measures on offer	Head/chief executive of educational establishment Head of in-company education and training services Head of specialist section Head of commercial or technical continuing training	Primarily via the different educational specialist economic, commercial or technical disciplines and practical experience as subject specialist and/or office-holder pedagogical psychology with career in education management
Type B People involved in planning programmes and measures and/or primarily teaching theory	Seminar leader Director of studies Higher education teacher Tutor, subject specialist, trainer Continuing training instructor Assistant lecturer Course leader Teamer	Primarily "side entry" with access through post as teacher at vocational training or general schools or as HE teacher, job in initial vocational training, qualification and professional experience as subject specialist Studies in adult education or company pedagogics, pedagogics, social pedagogics, social work
Type C People involved in planning measures and/or primarily with practical instruction	Workshop instructor Master craftsman Trainer	Master craftsman's examination or trainer aptitude examination after previous initial vocational training and professional experience Engineers or other subject specialists
Type D People involved in the area of social pedagogics/pastoral care	Specialists in social pedagogics Social workers Psychologists	Studies of social work, social pedagogics, psychology, supplementary training in social pedagogics

(borrowed from: Alt et al 1994, p. 104)

and education managers have far fewer. The seminar leader's work focuses on programme planning and administration, including the selection and mentoring of internal and external teaching staff. The education manager, by contrast, is mainly involved in analysing demand and costs, as well as organising and presenting the continuing training programme both internally and outside the organisation.

The spread of new forms of work organisation is also impacting on continuing training; systematically preparing people to act independently and developing social and communication skills in participants is becoming an important part of continuing training. In order for continuing training personnel to be able to foster such wide-ranging skills, they themselves must have these skills and, moreover, be able to shape an active learning culture, to make more use of active learning methods to activate participants and systematically promote independent and self-organised learning on the part of the participants. The prerequisite for this is that continuing training staff are trained to be able to trigger these changed attitudes and behaviours and to be ready to rethink their own roles. They must be enabled to make employees less rigid in their orientations and optimise their capacity to resolve conflicts, be creative and work with others. From the didactic viewpoint unstructured learning processes in which participants systematically face the challenge to learn how to deal with uncertainty and acquire the skill to cope with unexpected demands are increasingly important.

In order to be able to respond professionally to these aspects in continuing vocational training, there is a need for thorough knowledge of adult education and the didactical and methodological requirements involved in teaching adults; as a qualification for the job this is indeed essential.

In view of the many varied functions and educational backgrounds of trainers in the field of continuing training it is almost impossible to develop a concept for the professional development of continuing trainers which covers all the different jobs and functions involved. It is possible, however, to highlight a few key points which need to be observed:

> Most of those continuing trainers who impart hands-on skills (type C) have a qualification in vocational or work-related pedagogics. For them it is important to learn about the criteria relating to adult learning and to let go of engrained and rigid mental models. Hence it is important that continuing training for this group should tie into their experience.

> Type A and type B trainers generally reach their position by way of technical training and practical job experience. These groups need to be introduced to pedagogical and didactic elements of adult education at an appropriately differentiated level while at the same time being encouraged to reflect on their own actions with the aid of pedagogical concepts.

> In the light of the new forms of work organisation, the social and methodological skills of workers are of fundamental importance. For vocational trainers in the area of continuing training this means firstly that they must be able to foster these skills through their teaching methods; this in turn means that they must be acquainted with the possible methods applicable in adult education and be able to make proper didactic judgements about the individual methods.

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